

NWS Wakefield Briefing Web Page Users Guide

Bill Sammler

Warning Coordination Meteorologist

NOAA/National Weather Service

Wakefield, VA

February 2015

Table of Contents

Preface	3
1 - Main Briefing Page	4
1a – Using the Interactive Observation Listing	5
1b – Using the Interactive Observation Map	6
1c – Forecast Graph, Forecast Table and Forecast Images	7
1d – The Point and Click Forecast	9
2 – The Severe Thunderstorms Page	10
3 – The Rain and Snow Forecasts Page	12
4 – The Hurricanes Page	15
5 – The Marine Weather Page	16
6 – The Tides and Coastal Flooding Page	17
7 – The Rivers/River Flooding Page	21
8 – The Radar and Satellite Page	25
9 – The Extended Forecasts and Drought Page	28
10 – The Climate Data Page	29
11 – The Space Weather Page	31
12 – The Maps and Models Page	32
13 – The Fire Weather Page	34
14 – The Safety and Preparedness Page	35
Appendix A – The Winter Mesoanalysis Page	36
Appendix A1 – The Precip Type Nomogram Page	37
Appendix B – The Severe Thunderstorm Mesoanalysis Page	38
Appendix C – Comprehensive Airport Observation List	42
Appendix D – Winter Storm and Tropical Storm/Hurricane SA Pages	43
Appendix E – A Daily Briefing to Enhance Situational Awareness	44

Preface

This document attempts to provide a resource to help customers navigate through, and understand, [NWS Wakefield's Briefing Web Page](#). The Briefing Web page was first developed about 10 years ago as an effort to merge data from a number of different NWS and NOAA sources into a "one-stop shop" of weather related information. The current version of the page also provides most mobile users the convenience of having our Briefing Web Page available when they are using a smartphone or tablet PC, either in the office, or in the field.

While I have done most of the development, a number of people inside and outside of NWS Wakefield have contributed ideas, suggestions for improvement, and programming solutions. The Briefing Web Page continues to be a work in progress. I will try to keep this page as up to date as possible. Your help, in the form of comments, suggestions, etc. is always welcome and appreciated.

I only ask that you take time to become familiar with our Briefing Web Page. This guide can help. Please feel free to contact me at any time relative to our Briefing Web Page.

Bill Sammler
WCM – NWS Wakefield, VA
william.sammler@noaa.gov
757-899-5732

1 - Main Briefing Page

NWS Wakefield Weather Briefing Page
"Working Toward a Weather-Ready Nation"
Suggestions for Improvement are welcome.

Main EM/Briefing Page

Rain and Snow Forecasts

Severe Thunderstorms

Hurricanes

Tides/Coastal Flooding

Marine Weather

Rivers/River Flooding

Radar and Satellite

Extended Forecasts and Drought

Climate Data

Space Weather

Maps and Models

Fire Weather

Safety and Preparedness

Wakefield Radar

Dover AFB Radar

Forecast Graph

Forecast Table

Forecast Images

Local Time : 4:05:40 p.m. UTC : 21:05:40 Z

WFO Wakefield, VA SKYWARN Spotter Page
Watch/Warning/Advisory Color Definitions

WFO Wakefield, VA Home Page
Weather Term/Abbreviations Glossary

Click on the map below for the latest forecast.

Read watches, warnings & advisories

Small Craft Advisory
Special Weather Statement
Hazardous Weather Outlook

Click to enlarge

Today's Severe Tstm Outlook

Click to enlarge

72 Hour Rainfall Forecast

Click to enlarge

48 Hour Total Snow Forecast

Winter Storm SA Page

Regional Observations
Interactive Listing
Interactive Regional Map

Marine Observations
Bay and Ocean (text)

WFO Wakefield Products
Area Forecast Discussion
Special Weather Statement
HAZARDOUS WEATHER LOOK

Daily Precip Summary

Public Information Statements,
Snow and Ice Reports

Local Storm Reports (LSR)
(Severe Thunderstorms)

Quick Forecast

USGS Earthquake Info

Location click location name for 2 day history	Sky/ Weather	Temp. (°F)	Dewpt. (°F)	Humidity (%)	Wind (mph)	Pressure (in)
OCEAN CITY	SUNNY	30	17	58	NE6	30.37F
SALISBURY	SUNNY	33	12	41	NE6	30.35F
ACCOMACK*	SUNNY	36	21	55	E7	30.35F
STAFFORD*	SUNNY	33	7	33	S5	30.38F
FREDERICKSBURG*	SUNNY	34	5	29	S6	30.33F
HANOVER	SUNNY	32	4	60	SW3	30.34F
TAPPAHANNOCK*	SUNNY	33	-4	20	CALM	30.34F
RICHMOND	MOSUNNY	34	4	36	CALM	30.33F
CHESTERFIELD*	CLEAR	34	3	27	SE5	30.33F
CHARLOTTESVILLE	SUNNY	31	0	26	S8	30.30F
FARMVILLE*	SUNNY	41	-2	16	SE6	30.30S
SOUTH HILL*	SUNNY	37	5	25	CALM	30.36F
WILLIAMSBURG*	SUNNY	36	5	27	CALM	30.36F
FRANKLIN*	SUNNY	34	10	37	E6	30.34F
NORFOLK	SUNNY	31	19	61	N8	30.34F
VIRGINIA BEACH	MOSUNNY	33	24	69	N8	30.33F
NEWPORT NEWS	SUNNY	33	16	49	E7	30.35F
WAKEFIELD	SUNNY	34	3	27	VRB3	30.34F
ELIZABETH CITY*	CLOUDY	35	24	64	N10	30.33F
CURRITUCK*	CLOUDY	34	25	70	N9	30.33F
EDENTON*	MOSUNNY	36	22	57	NE5	30.32F
ROANOKE RAPIDS	CLEAR	36	12	38	E5	30.32S

Hourly observations from: 300 PM EST THU JAN 30 2014

The NWS Wakefield Briefing web page has a significantly different structure than most NWS web pages. The tabs across the top of the page (1) link to topic specific web pages. Below the tabs are links to radar and other ways to access routine forecasts (2). These will be discussed in section 1b. The main NWS Watch, Warning and Advisory (WWA) Map (3) is the same as our office main web page. Click anywhere on the map to obtain a 7 day forecast on land, and a 5 day forecast on the Bay/ocean. Below the WWA map is a listing of observations across our area of responsibility (4). Click on the location to obtain a 2 day listing of observations for that site (see section 1a). (5). **"Click to Enlarge"**: Click on any of the 3 thumbnail graphics to obtain a full size version of that graphic. During the warm season, the snowfall graphic is replaced with the Graphical Tropical Weather Outlook. Finally, to the right of the WWA map and observation listing, are links to seasonally appropriate hazard outlook, and some of our text products/forecasts (6). Under **Regional Observations**, the **Interactive Listing** link takes you the table at left labeled #4. The **Interactive Regional Map** takes you to a map that is Mid Atlantic centric,

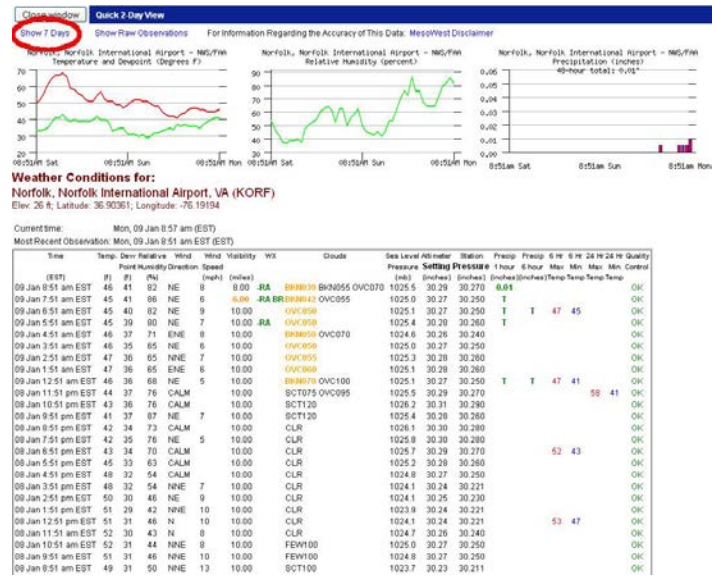
containing the most recent surface observations from a variety of sources - airport observations (ASOS/AWOS), marine buoys, fire weather (RAWS) observation sites, and mesonet observations. This map can be panned and zoomed, and will update automatically. ***This page is scheduled to refresh automatically every 5 minutes.***

1a – Using the Interactive Observation Listing

Location click location name for 2 day history	Sky/ Weather	Temp. (°F)	Dewpt. (°F)	Humidity (%)	Wind (mph)	Pressure (in)
OCEAN CITY	CLOUDY	38	27	64	NE7	30.32S
SALISBURY	CLOUDY	36	24	62	NE3	30.32S
ACCOMACK*	CLOUDY	37	32	81	NE5	30.30S
STAFFORD*	CLOUDY	34	32	93	CALM	30.37F
FREDERICKSBURG*	CLOUDY	36	28	75	CALM	30.32F
HANOVER	CLOUDY	38	26	62	CALM	30.33S
TAPPAHANNOCK*	CLOUDY	36	32	87	N3	30.33R
RICHMOND	CLOUDY	37	27	67	N9	30.32R
PETERSBURG	CLOUDY	41	30	65	NE6	30.30S
CHARLOTTESVILLE	CLOUDY	35	23	61	CALM	30.31F
FARMVILLE*	CLOUDY	37	25	60	NE8	30.29F
SOUTH HILL*	RAIN	39	34	81	N5	30.33R
WILLIAMSBURG*	CLOUDY	43	36	75	NE5	30.31R
FRANKLIN*	CLOUDY	43	43	100	NE3	30.27S
NORFOLK	LIGHT-RAIN	45	41	86	NE6	30.27S
VIRGINIA BEACH	CLOUDY	45	39	79	NE5	30.27S
NEWPORT NEWS	CLOUDY	41	35	79	NE7	30.29S
WAKEFIELD	CLOUDY	40	33	76	N5	30.29R
ELIZABETH CITY	LIGHT-RAIN	46	41	82	N8	30.26S
CURRITUCK*	DRIZZLE	47	39	73	N5	30.27R
EDENTON*	CLOUDY	45	43	93	CALM	30.26S
ROANOKE RAPIDS	CLOUDY	43	43	100	N3	30.26S

Hourly observations from: 800 AM EST MON JAN 09 2012

The interactive observation table contains the latest hourly observations for most sites in our area of responsibility. The location names are hot linked to a 2 day listing of all observations for that location, along with a graphical display of temperatures/dew points, relative humidity, and precipitation (see below). A 7 day observation display for this location can be obtained by click on the “**Show 7 Days**” link (**circled in red**) at the top left of the 2 day display.

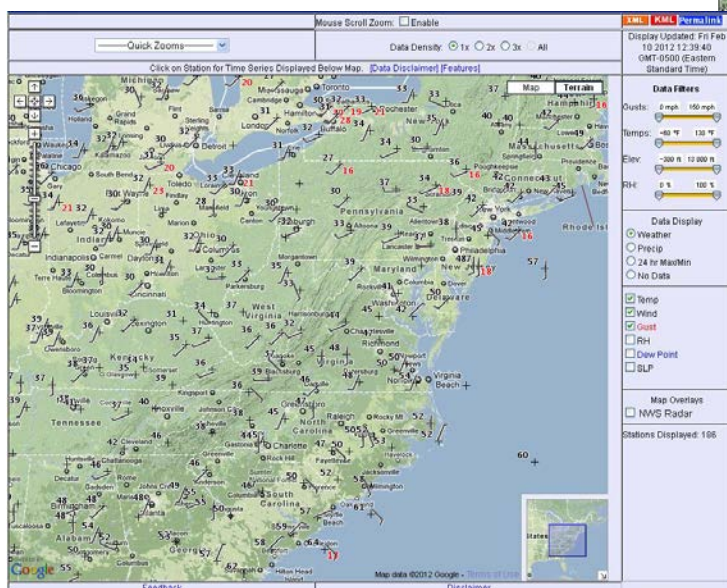
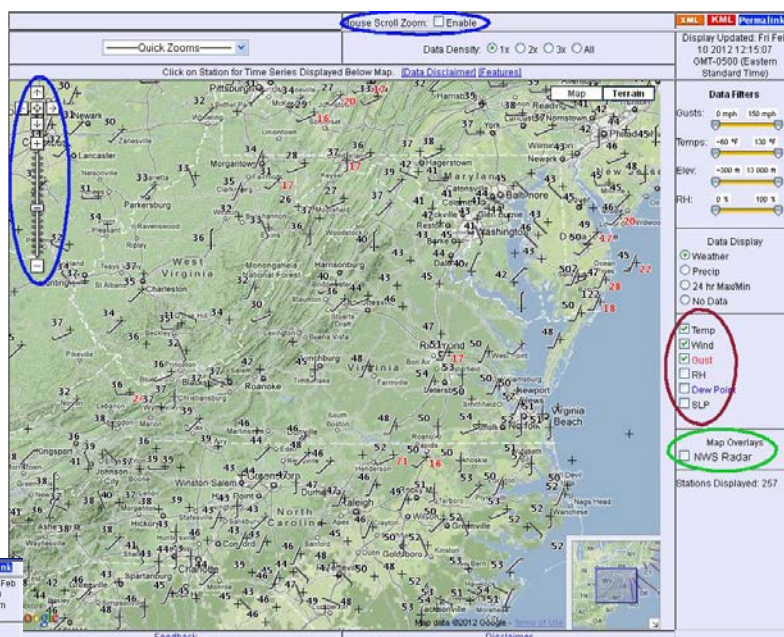


The URL seen in your browser for the 7 day display contains “**num=168**” (**red circled area**). This denotes the number of hours of observations displayed (7 days=168 hours). Up to 30 days (720 hours) of observations can be obtained in this display. Simply change the number of hours you want to see, up to 720, and hit ENTER on your keyboard. The display will update accordingly. In addition, you can change the location you wish to view by using the

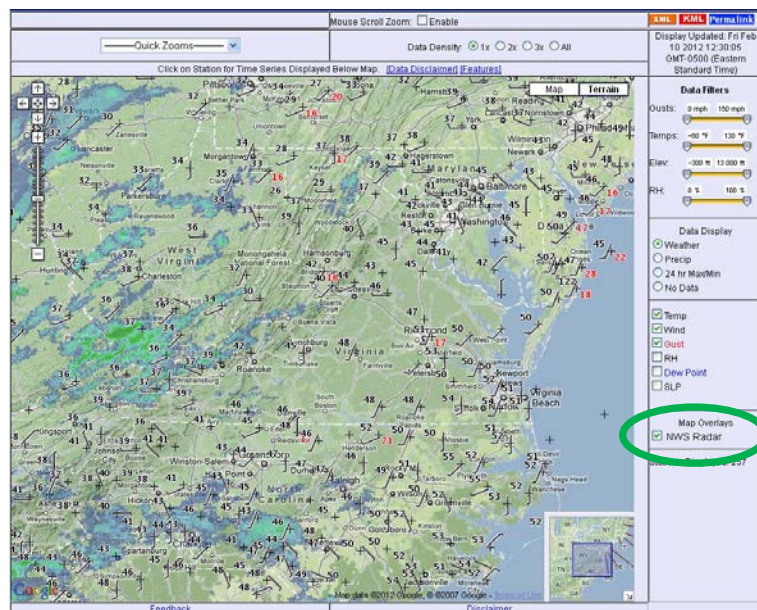
interactive listing, or by editing the “sid=XXXX” to the appropriate 4 letter identifier. An interactive list of airport identifiers in, and adjacent to, our area of responsibility, can be found in **Appendix C** or at: <http://www.erh.noaa.gov/akq/brief/Airports.pdf>.

1b – Using the Interactive Observation Map

Clicking on the *Interactive Regional Map* (from the **main Briefing Page**), *Land and Water (map)* (from the **Marine Weather page**) or *Mesonet Surface Observation Map* (from the **Maps and Models Page**), will get you to the map interface to the right. The default map is centered on the Mid Atlantic region. However, the user can move around, or zoom in/out, by using the arrows and +/- circled in blue, or via your mouse by clicking “Enable” in the blue oval above the map.

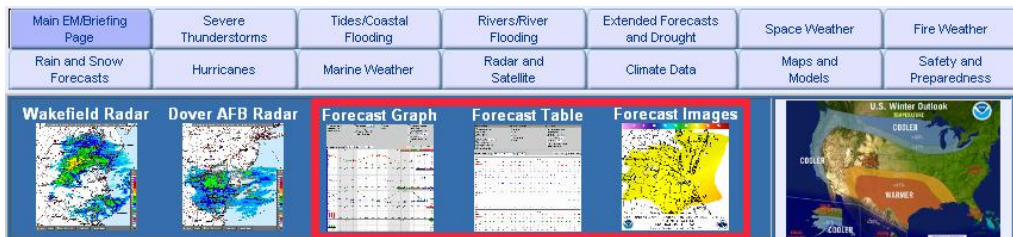


You can toggle on/off the weather variables circled in red, and add the latest radar image by clicking “NWS Radar” (circled in green) – see below.



1c – Forecast Graph, Forecast Table and Forecast Images

Just below the various briefing page tabs are links to 3 additional ways to obtain specific forecast information in either a point form, or in map/image form.



Forecast Graph and Forecast Table

Click on either the **Forecast Graph** or **Forecast Table** links and you get a map interface that looks very similar to the map on the main briefing page. Examples below show the forecast in graph form (below left) and tabular form (below right). This is a 2 day forecast, but, by using the casts out to 7 days can be retrieved.



Last Updated: Mon, Jan 09 2012 1:19 PM

Read watches, warnings & advisories
Zoom Out

Hourly Weather Graph

Gale Warning	
Hazardous Weather Outlook	
Short Term Forecast	

Select City/Location

Accomac VA
Ahoskie NC
Charlottesville VA
Elizabeth City NC
Farmville VA
Franklin VA
Fredericksburg VA

Submit

Latitude Longitude Entry

decimal degrees (i.e. 42.134) or
deg min sec (i.e. 42 23 34)

Latitude:

Longitude:

Submit

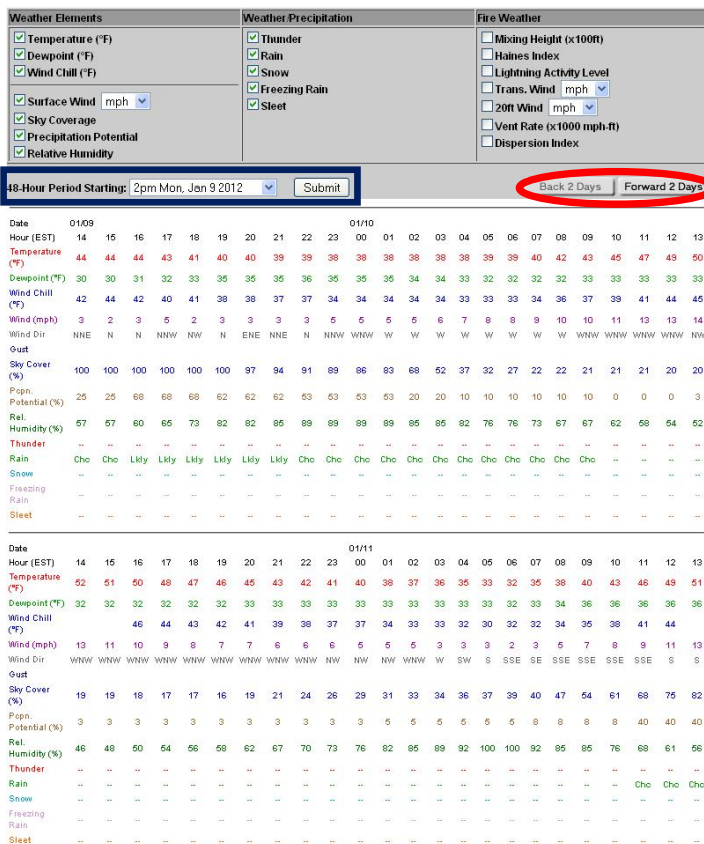
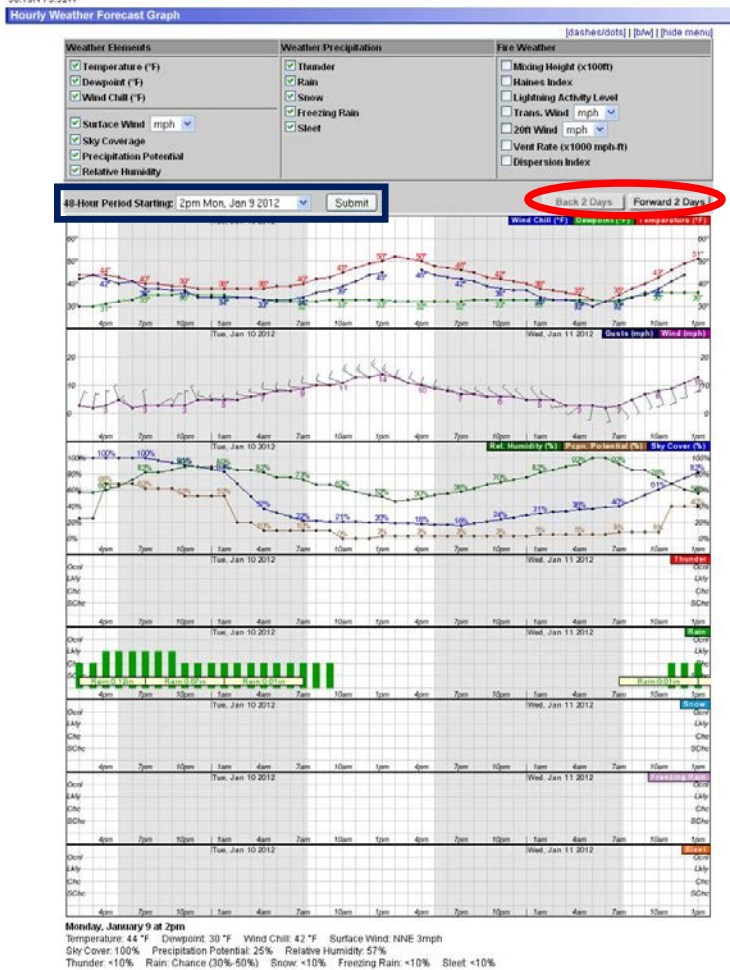
Latitude/Longitude Entry
decimal degrees (i.e. 42.134) or
deg min sec (i.e. 42 23 34)

Latitude: Longitude:

Submit

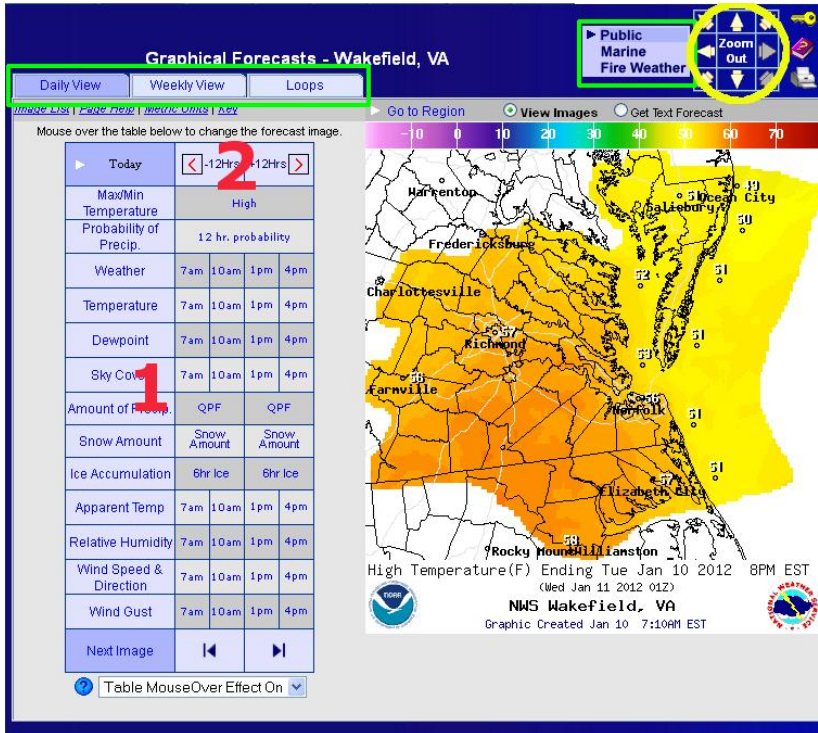
Point Forecast: 7 Miles W Snow Hill MD
38.19N 75.52W

Last Update: 1:14 pm EST Jan 2011



Both the hourly graph and hourly table have the same user interface. All of the weather elements at the top can be toggled on/off to those of most concern to you. To move the forecast period forward (backward) in 2 day increments, click the “**Forward 2 days**” (Back 2 Days) buttons below the parameter selection area. You can also start the 2 days forecast from a desired day/time by using the “**48 Hour Period Starting:**” drop-down menu, selecting the desired date/time, and clicking “**Submit**”.

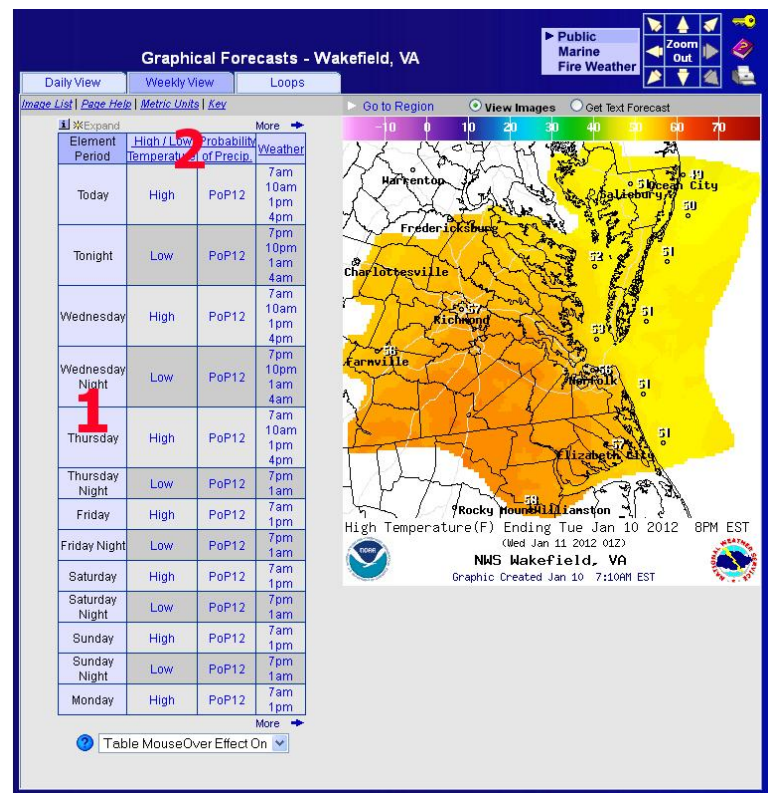
Forecast Images



Click on the **Forecast Images** link, and you will see the interface to the left. The various weather elements are listed down the left side of the menu (1). Simply mouse over any of the times for a given weather element to retrieve the forecast image for that time. You can change the day/time interval by using the white arrow next to “**Today**”, or the “**< -12Hrs**” or “**+12Hrs**” buttons at the top of the interface (2). Clicking on the tabs above the navigation table will direct the user to a weekly interface (see below), or an interface for animations (loops) of the various weather elements.

The highlighted areas at the top right of the Forecast Images allow additional functionality. First, the area circled in yellow will allow the user to navigate to **a different NWS office** (using the *arrows*), or to **state, regional or national graphical views** (by clicking “**Zoom Out**”).

Second, a user wishing to view marine related images or fire weather related images can do so by clicking “**Marine**” or “**Fire Weather**”. These Forecast Image interfaces can be access directly through the [Marine Weather](#) and [Fire Weather](#) Briefing pages.



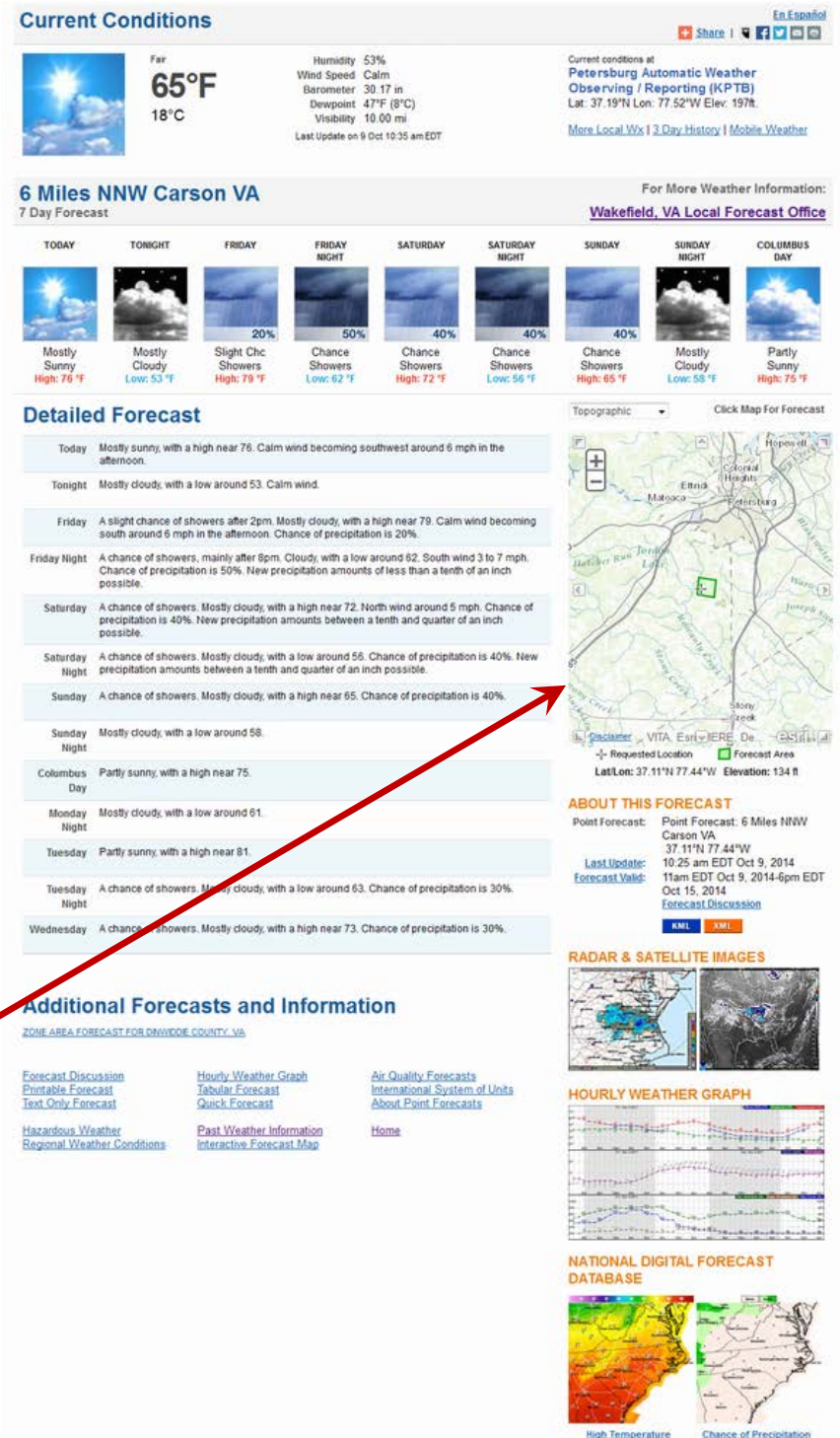
1d – The Point and Click Forecast

The **point and click forecast** can be obtained for any land based point simply by clicking on the desired location within the main briefing web page map (labeled 3 on the Main Briefing Page description graphic). The forecast page you get looks like the image to the right. The forecast information is pretty self-explanatory, and you can get the forecast images by going to the bottom left, and there are links to the forecast graph (Hourly Weather Graph) and forecast table (Tabular Forecast) at the bottom right.

On the right hand side of the page are links to NWS Wakefield radar, satellite imagery, and current observations. However, the 3 day history is different and less thorough than the links discussed previously.

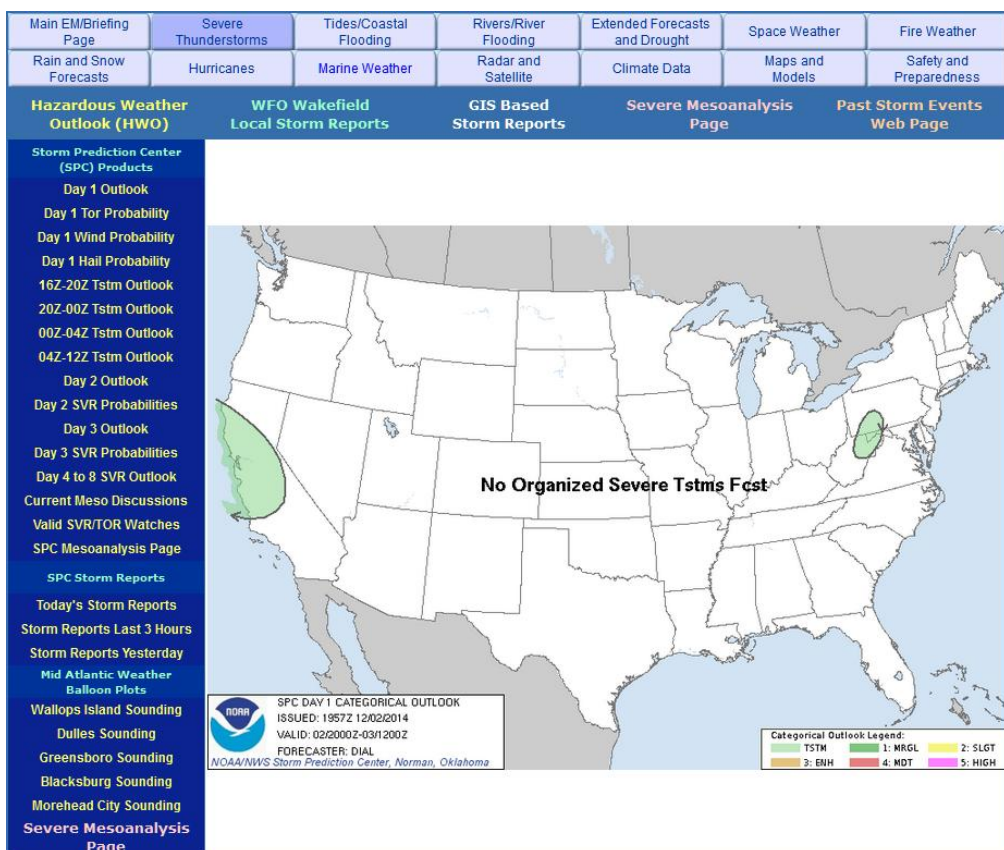
One feature that you might find useful is the map under the Detailed Point Forecast header to the right of the 7 day forecast. This map utilizes an interface that that allows you to pan and zoom anywhere in the U.S. using your mouse, or the legend at the top left of the map. Thus, you can get a 7 day forecast for any location in the U.S. simply by navigating to the location you want, and clicking on the map. ***This includes bays, sounds and nearshore marine areas!!!***

For mariners, getting a point forecast direct from the main briefing page map is a 2 step process. First, click on the marine location desired, which will give you the coastal waters text forecast for the appropriate zone. To get a point specific forecast, go to the map, and click on the specific marine location of interest.



2 – The Severe Thunderstorms Page

NOTE: This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.



The Storm Prediction Center (SPC) in Norman, OK has responsibility for issuing outlooks, and watches for severe thunderstorms and tornadoes across the lower 48. An overview of SPC and its products is available at:

<http://www.spc.noaa.gov/misc/about.html>. Our severe weather briefing page is designed to provide most of SPC's outlook products, as well as the latest mesoscale discussions and valid watches. SPC's outlooks are issued at various times during the day, but only the day 1 and day 2 outlooks are issued multiple times per day. **Day 1 (current day) outlook products** are issued at approximately **1am-2 am, 8am-9am, 1130am-1230pm, 3pm-4pm and 8pm-9pm** every day. **Day 2**

(tomorrow) outlooks are issued daily at **2 am, and 1230pm-130pm**. The **Day 3 and days 4-8 outlooks** are issued once per day **before 6 am**.

The days 1-3 outlooks contain both deterministic (categorical) forecasts, and probabilistic forecasts. The probability corresponding to the various severe thunderstorm categories is provided in the graphics below.

Day 1 Outlook Probability	TORN	WIND	HAIL
2%	MRGL	Not Used	Not Used
5%	SLGT	MRGL	MRGL
10%	ENH	Not Used	Not Used
10% with Significant Severe	ENH	Not Used	Not Used
15%	ENH	SLGT	SLGT
15% with Significant Severe	MDT	SLGT	SLGT
30%	MDT	ENH	ENH
30% with Significant Severe	HIGH	ENH	ENH
45%	HIGH	ENH	ENH
45% with Significant Severe	HIGH	MDT	MDT
60%	HIGH	MDT	MDT
60% with Significant Severe	HIGH	HIGH	MDT

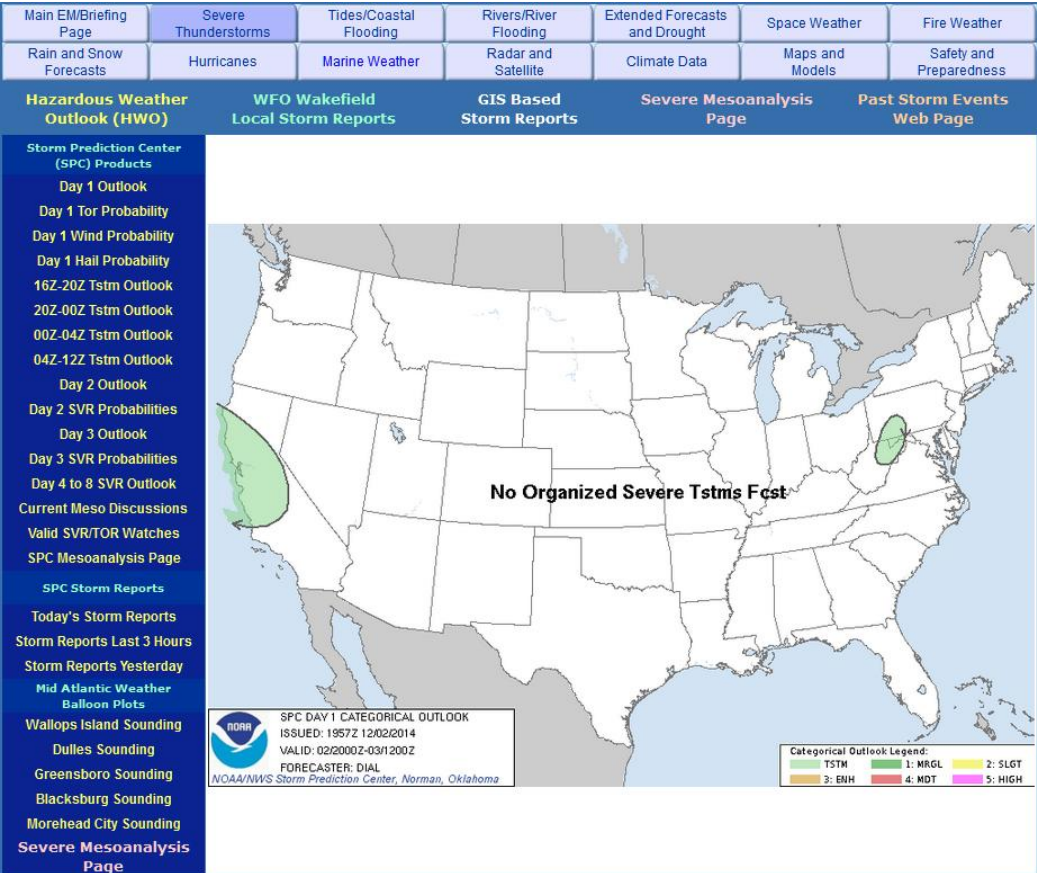
Day 3 Outlook Probability	Combined TOR, WIND, HAIL
5%	MRGL
15%	SLGT
15% with Significant Severe	SLGT
30%	ENH
30% with Significant Severe	ENH
45%	ENH
45% with Significant Severe	MDT

Day 2 Outlook Probability	Combined TOR, WIND, HAIL
5%	MRGL
15%	SLGT
15% with Significant Severe	SLGT
30%	ENH
30% with Significant Severe	ENH
45%	ENH
45% with Significant Severe	MDT
60%	MDT
60% with Significant Severe	HIGH

Below the day 1 outlook product links are links to **4 hour probabilistic thunderstorm forecasts**, which are issued multiple times per day. Please note that the first 00Z-04Z Tstm Outlook is issued in the 8am to 9am time frame, and the first 04Z-12Z Tstm Outlook is issued between 1230am and 130am.

Below the links to SPC’s outlook and watch products are links to national storm report maps, as well as the most recent weather balloon (radiosonde) observations for Wallops Island, VA, Dulles, VA, Greensboro, NC, Blacksburg, VA and Morehead City, NC. SPC has created a [radiosonde/Skew-T help page](#) for anyone interested in learning how to interpret these observations and the parameters derived from analysis of the data.

For those of you interested in digging a little deeper into the science/meteorology behind severe thunderstorms/tornadoes, there are a couple of links worth investigating. The [SPC Mesoanalysis Page](#) link offers the ability for the user to look at severe weather parameters at a number of regional sectors across the lower 48. We have also created a [local Severe Mesoanalysis Page](#) that provides a mouseover based display of the SPC severe weather parameters for a

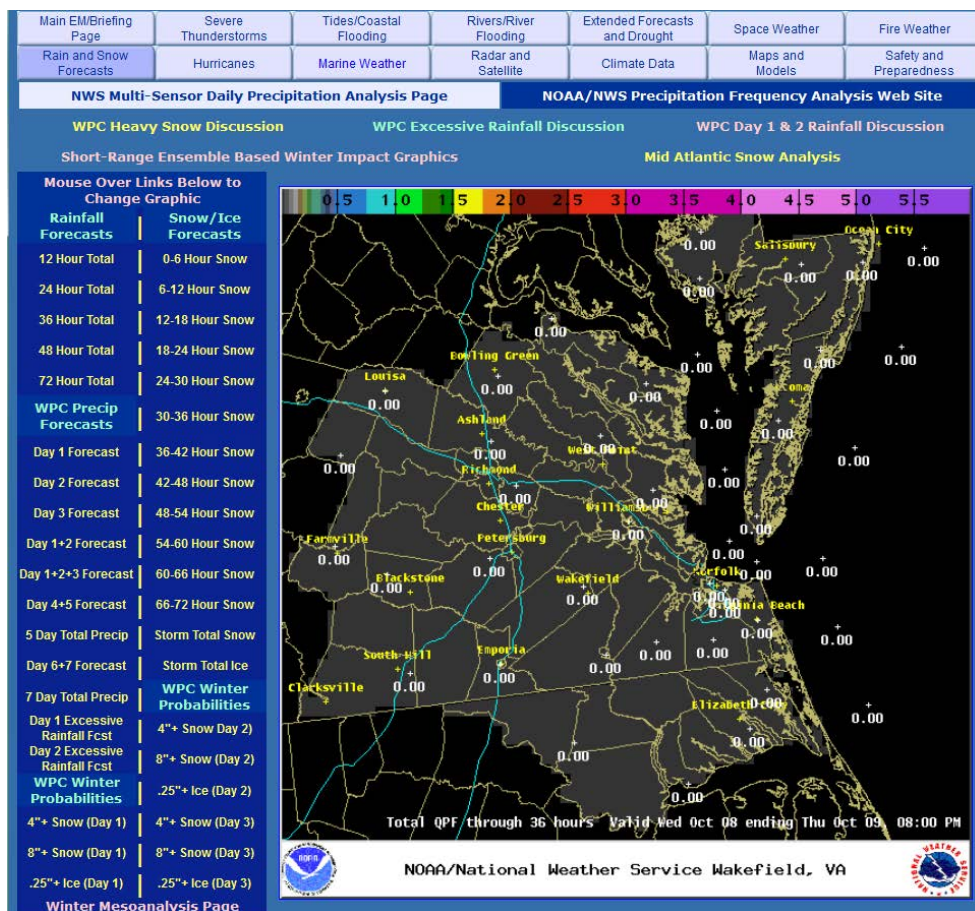


mid Atlantic centered regional sector. Additional information on this page can be found in Appendix B of this guide (or on the next page if you are viewing the Severe Thunderstorm page users guide).

Finally, a link to **WFO Wakefield’s Past Storm Events Page** has recently been added to the links above the graphic display. This page contains reviews of significant winter weather, severe thunderstorm and tropical storm/hurricane events going back more than 10 years.

3 – The Rain and Snow Forecasts Page

NOTE: *This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.*



Our Rain and Snow Forecasts page can be utilized in much the same way as the Severe Thunderstorms page. At left is the winter version of this page.

Between April and mid-November, only the left column of the links table (i.e. rainfall forecasts) will be seen.

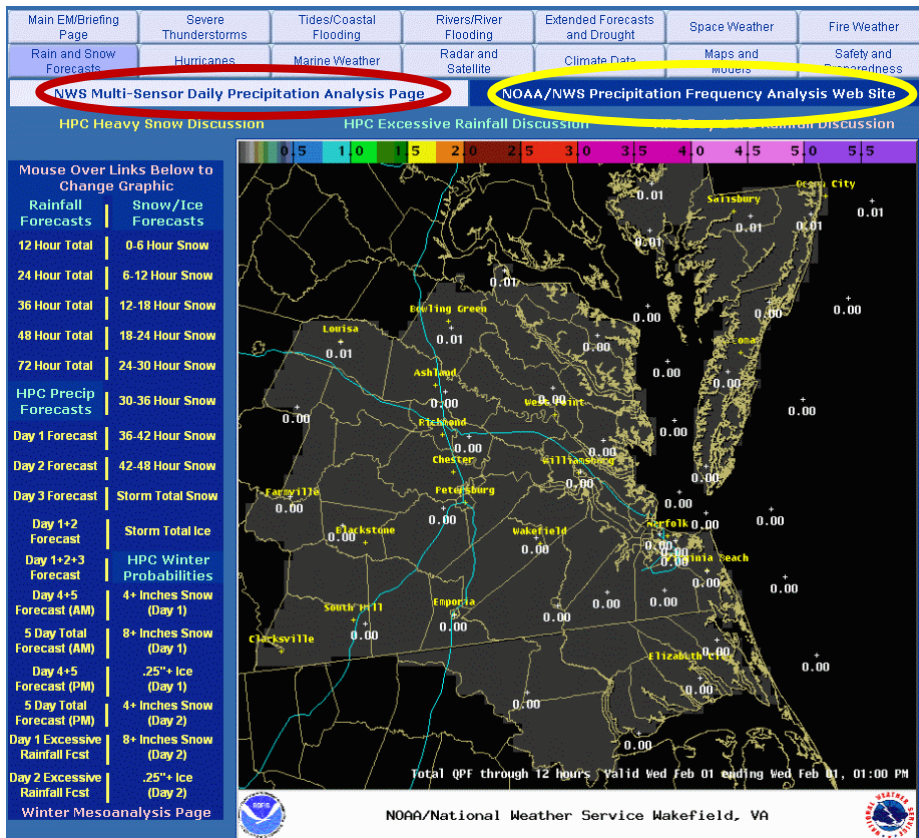
There are 2 types of precip forecasts on this page. The **first type** are forecasts generated here at NWS Wakefield. **Second** are the **Weather Prediction Center (WPC) national forecasts of precipitation, snow or ice**. The snow/ice probability thresholds used are defined as follows: **SLGT** - 10% to 40% chance of occurrence within the outlined area. **MODERATE (MDT)** - 40% to 70% chance of occurrence within

the outlined area. **HIGH** - 70% chance or greater of occurrence within the outlined area. Associated WPC discussions are linked above the graphics display. The timeframes for the various graphics are fairly self-explanatory, and are labeled on both our local and WPC precipitation forecasts. However, there is an important difference between our locally produced rain and snow forecasts.

The **12 through 72 hour rainfall forecasts are running totals** through the 72 hour period. The **0-6 hour through 66-72 hour snowfall forecasts are individual 6 hour accumulations**. From a snowfall perspective, this gives the user an idea of not only when the wintry precipitation will begin, but in what time the heaviest snow is expected. Snowfall and ice accumulation totals for the entire storm can be found in the Storm Total Ice, and Storm Total Snow links.

The [Winter Mesoanalysis Page](#) link (bottom of the precip graphics table) will take you to a page with SPC winter weather parameters overlaid on the same regional section as the Severe Mesoanalysis Page discussed in the Severe Thunderstorms tab discussion (see Appendix A of this document, or the last 2 pages of the Rain and Snow Forecasts Page Users Guide).

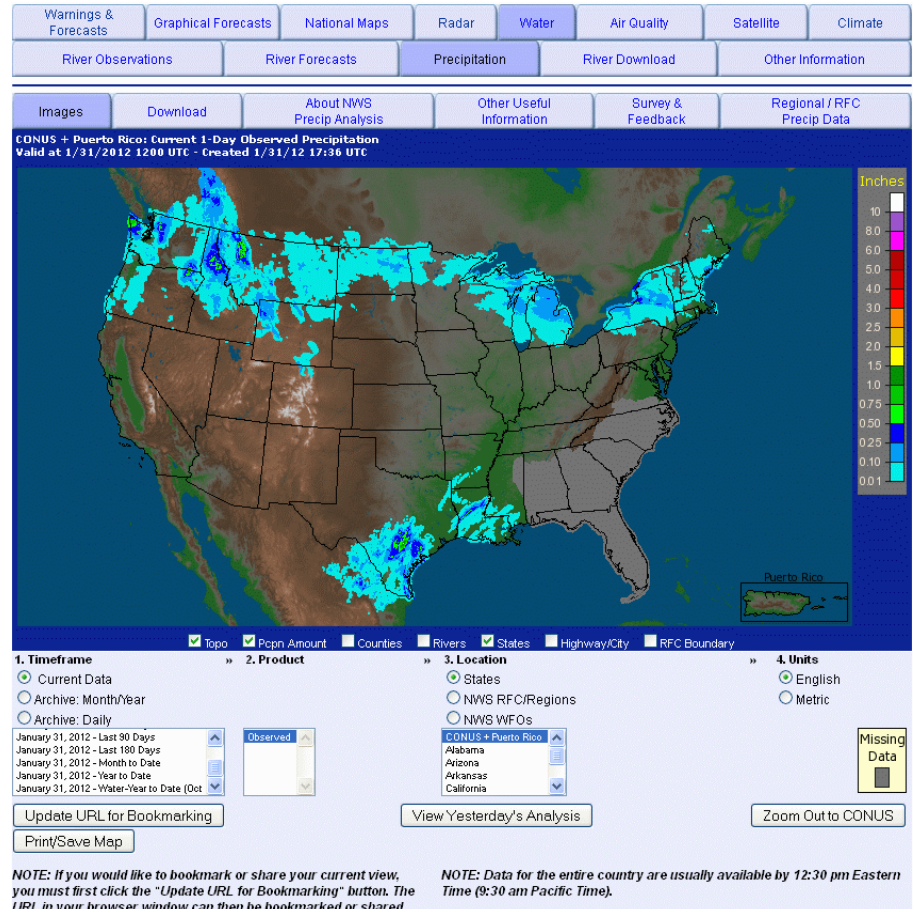
Two additional links above the graphics display provide some very useful information. These are discussed on the next page.



The links to the **NWS Multi-Sensor Daily Precipitation Analysis Page** (highlighted by the red oval), and the **NOAA/NWS Precipitation Frequency Analysis Web Site** (highlighted by the yellow oval), provide very useful information about past precipitation, and the frequency of precipitation events of certain magnitudes, respectively.

Daily Precipitation Analysis

The default map display shows precipitation across the U.S. in the last 24 hours, with the national data being available by noon each day. This graphic is derived from a combination of rain gauge measurements and radar based rainfall. The display can be changed to any state by selecting the state from the menu under **3. Location** located below the map. In addition, different products (departure from normal, percent of normal) can be obtained by selecting a different time frame (last 7 days to water year to date) under **1. Timeframe**.



NOTE: If you would like to bookmark or share your current view, you must first click the "Update URL for Bookmarking" button. The URL in your browser window can then be bookmarked or shared.


NOTE: Data for the entire country are usually available by 12:30 pm Eastern Time (9:30 am Pacific Time).

Precipitation Frequency Analysis

A precipitation frequency analysis can provide useful information to planners at the state or local level. The

analysis shows the return period/interval (in years) for a given amount of precipitation for durations ranging from 5 minutes to 60 days. Click on the Precipitation Frequency Analysis link, and the page to the left appears in a new window.

Click on any state highlighted in blue, and the new map looks like this:


NOAA's National Weather Service

Precipitometeorological Design Studies Center

Precipitation Frequency Data Server (PFDS)

Home
Site Map
News
Organization

General Info
[Homepage](#)
[Current Projects](#)
[FAQ](#)

Precipitation
Frequency (PF)

- PF Data Server
 - PF in GIS Format
 - PF Maps
- Temporal Distrib.
- Time Series Data

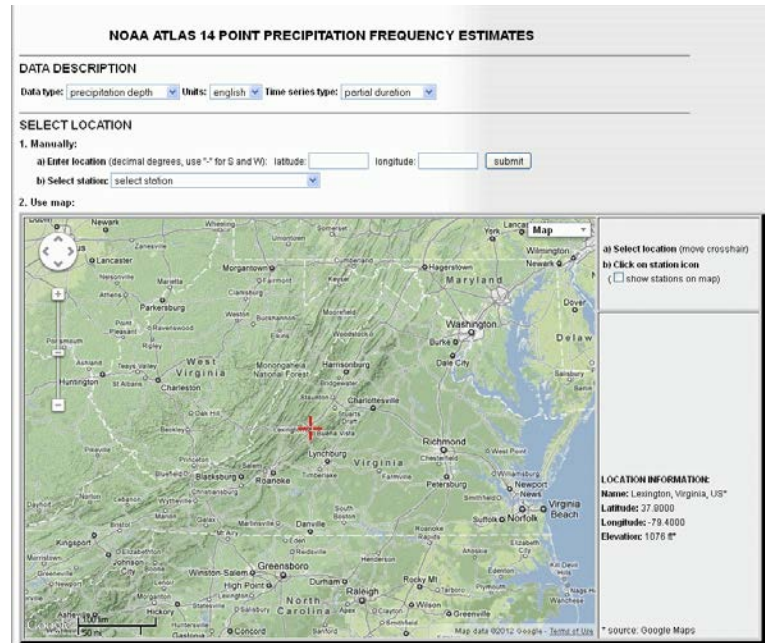
PF Documents
[PMP Documents](#)
[Record Precipitation](#)

Precipitation frequency estimates for Alaska
will be published by February 3, 2012.

State:

[Contact Us](#)
[Inquiries](#)
[List server](#)

To obtain a precipitation frequency analysis for a given location, simply drag the red cross to the desired location, and the map will automatically re-center to that location, and a ***precipitation frequency analysis will appear below the map*** in a table similar to the one below:



PF tabular

PF graphical

Supplementary information

Print Page

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5 min	0.396 (0.357 to 0.442)	0.468 (0.422 to 0.521)	0.540 (0.487 to 0.602)	0.611 (0.549 to 0.680)	0.687 (0.614 to 0.764)	0.749 (0.687 to 0.832)	0.807 (0.715 to 0.897)	0.862 (0.761 to 0.958)	0.929 (0.813 to 1.03)	0.988 (0.858 to 1.1)
10-min	0.632 (0.570 to 0.65)	0.748 (0.675 to 0.833)	0.865 (0.780 to 0.964)	0.980 (0.871 to 1.09)	1.09 (0.979 to 1.22)	1.19 (1.061 to 1.32)	1.28 (1.141 to 1.43)	1.37 (1.21 to 1.52)	1.47 (1.26 to 1.64)	1.56 (1.35 to 1.73)
15 min	0.790 (0.712 to 0.882)	0.941 (0.848 to 1.05)	1.09 (0.987 to 1.22)	1.24 (1.11 to 1.38)	1.39 (1.24 to 1.56)	1.51 (1.34 to 1.68)	1.62 (1.44 to 1.80)	1.73 (1.52 to 1.92)	1.85 (1.62 to 2.08)	1.95 (1.72 to 2.17)
30-min	1.08 (0.976 to 1.21)	1.30 (1.17 to 1.45)	1.55 (1.40 to 1.73)	1.79 (1.61 to 1.98)	2.06 (1.84 to 2.3)	2.37 (2.03 to 2.53)	2.68 (2.26 to 2.76)	2.99 (2.37 to 2.98)	3.34 (2.58 to 3.28)	3.72 (2.73 to 3.72)
60 min	1.35 (1.22 to 1.51)	1.65 (1.47 to 1.81)	1.99 (1.80 to 2.22)	2.33 (2.09 to 2.6)	2.74 (2.45 to 3.04)	3.06 (2.75 to 3.42)	3.42 (3.03 to 3.80)	3.77 (3.32 to 4.18)	4.26 (3.70 to 4.7)	4.62 (4.01 to 5.14)
2-hr	1.60 (1.44 to 1.75)	1.93 (1.74 to 1.5)	2.39 (2.15 to 2.67)	2.84 (2.54 to 3.16)	3.40 (3.03 to 3.77)	3.88 (3.43 to 4.31)	4.37 (3.85 to 4.85)	4.89 (4.26 to 4.3)	5.61 (4.86 to 6.22)	6.23 (5.36 to 6.91)
3 hr	1.72 (1.54 to 1.94)	2.07 (1.85 to 2.3)	2.58 (2.30 to 2.89)	3.06 (2.73 to 3.43)	3.69 (3.27 to 4.12)	4.24 (3.74 to 4.73)	4.82 (4.21 to 5.37)	5.42 (4.71 to 6.04)	6.28 (5.38 to 6.99)	7.03 (5.97 to 8.03)
6-hr	2.07 (1.85 to 2.33)	2.48 (2.12 to 2.8)	3.09 (2.74 to 3.46)	3.68 (3.26 to 4.5)	4.46 (3.95 to 5.02)	5.17 (4.58 to 5.7)	5.91 (5.14 to 6.5)	6.70 (5.75 to 4.9)	7.83 (6.66 to 7.5)	8.85 (7.44 to 8.8)
12-hr	2.45 (2.19 to 2.7)	2.93 (2.51 to 3.4)	3.67 (3.25 to 4.1)	4.41 (3.95 to 4.9)	5.40 (4.76 to 6.1)	6.30 (5.47 to 7.12)	7.27 (6.25 to 8.2)	8.33 (7.09 to 9.3)	9.86 (8.39 to 11.3)	11.3 (9.59 to 13.3)
24-hr	2.84 (2.63 to 3.3)	3.45 (3.17 to 3.8)	4.44 (4.07 to 4.9)	5.28 (4.82 to 6.2)	6.52 (5.95 to 7.6)	7.57 (6.81 to 8.7)	8.68 (7.78 to 9.5)	9.99 (8.85 to 11)	11.9 (10.3 to 13.4)	13.4 (11.6 to 14.8)
2-day	3.29 (3.02 to 3.53)	3.99 (3.69 to 4.4)	5.11 (4.69 to 5.7)	6.25 (5.65 to 6.9)	7.44 (6.74 to 7.7)	8.62 (7.75 to 9.4)	9.90 (8.94 to 10.9)	11.3 (10.0 to 12.5)	13.4 (11.7 to 14.8)	15.1 (13.1 to 16.1)
3-day	3.49 (3.23 to 3.84)	4.23 (3.86 to 4.6)	5.39 (4.95 to 6.3)	6.37 (5.82 to 6.9)	7.78 (7.07 to 8.5)	8.98 (8.11 to 9.8)	10.3 (9.26 to 11)	11.7 (10.4 to 12.8)	13.8 (12.1 to 14.5)	15.6 (13.5 to 17.2)
4-day	3.69 (3.29 to 4.5)	4.46 (4.11 to 4.9)	5.68 (5.22 to 6.2)	6.68 (6.12 to 7.3)	8.13 (7.40 to 9.0)	9.46 (8.40 to 10.3)	10.7 (9.57 to 11.7)	12.1 (10.4 to 13.2)	14.2 (12.5 to 15.6)	16.0 (13.9 to 17.6)
7-day	4.29 (3.95 to 4.6)	5.16 (4.76 to 5.6)	6.47 (5.96 to 7.07)	7.55 (6.84 to 8.23)	9.09 (8.19 to 9.7)	10.4 (9.42 to 11.3)	11.7 (10.6 to 12.8)	13.2 (11.8 to 14.4)	15.3 (13.6 to 16.8)	17.0 (14.9 to 18.7)
10-day	4.90 (4.55 to 5.3)	5.08 (4.60 to 5.9)	7.20 (6.74 to 7.9)	8.41 (7.79 to 9.1)	10.0 (9.20 to 10.8)	11.3 (10.4 to 12.3)	12.7 (11.5 to 14.3)	14.2 (12.8 to 14.5)	16.2 (14.5 to 17.9)	17.9 (15.8 to 19.6)
20-day	6.63 (6.19 to 1.5)	7.91 (7.38 to 8.6)	9.58 (8.92 to 10)	10.9 (10.1 to 11.7)	12.8 (11.8 to 13.7)	14.2 (13.1 to 15.3)	15.8 (14.6 to 17)	17.3 (15.8 to 18.7)	19.5 (17.7 to 21)	21.2 (18.1 to 23.5)
30-day	8.22 (7.72 to 7.9)	9.76 (9.16 to 10.4)	11.6 (10.9 to 12.4)	13.1 (12.2 to 14.0)	15.0 (14.0 to 16)	16.6 (15.4 to 17.7)	18.1 (16.9 to 19.3)	19.6 (18.1 to 21)	21.7 (19.9 to 23.2)	23.3 (21.2 to 25.1)
45-day	10.3 (8.87 to 10)	12.1 (11.4 to 12.8)	14.1 (13.4 to 14.5)	16.0 (15.0 to 17)	18.2 (17.1 to 19.4)	20.0 (18.7 to 21)	21.7 (20.2 to 23.1)	23.5 (21.8 to 25.5)	25.9 (23.8 to 27.7)	27.7 (25.3 to 29.7)
60-day	12.2 (11.6 to 13)	14.4 (13.6 to 15.2)	16.8 (15.9 to 17.8)	18.6 (17.6 to 19.7)	21.0 (19.8 to 22.2)	22.8 (21.5 to 24.2)	24.6 (23.1 to 26.1)	26.4 (24.6 to 28.0)	28.4 (26.0 to 30.5)	30.4 (28.1 to 32.4)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound or (less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimate and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

4 – The Hurricanes Page

Main EM/Briefing Page	Severe Thunderstorms	Tides/Coastal Flooding	Rivers/River Flooding	Extended Forecasts and Drought	Space Weather	Fire Weather
Rain and Snow Forecasts	Hurricanes	Marine Weather	Radar and Satellite	Climate Data	Maps and Models	Safety and Preparedness

NWS Hurricane Preparedness Web Site **COMET Community Hurricane Preparedness Course**

[Click to enlarge](#)

Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida

Tropical Cyclone Activity is Not Expected During the Next 48 Hours

Go to Eastern Pacific Outlook

655 AM EST SAT DEC 7 2013 Satellite Image: 0400 PM EST

Outlined areas denote current position of systems discussed in the Tropical Weather Outlook. Color indicates probability of tropical cyclone formation within 48 hours.

Low <30% Medium 30-50% High >50%

Graphical Tropical Weather Outlook

[Click to enlarge](#)

SST Anomalies

Atlantic Ocean Heat Content

National Hurricane Center (NHC)

Tropical Weather Discussion (Technical)

NWS Wakefield Products

Hurricane Local Statement (HLS)

Hurricane Post-Storm Report (PSH)

Hurricane Names AND Pronunciation

NOAA Hurricane Season Outlook

NHC Storm Surge Education Tool

Virginia Hurricane Evacuation Guide

RECON Data

NHC RECON Page

Vortex Data

NWS Wakefield Tropical Cyclone Impact Graphics
Available Only When a Storm Threatens the Mid Atlantic Region Within 2-3 Days

[Click to enlarge](#)

Wind Impact

[Click to enlarge](#)

Storm Surge Impact

[Click to enlarge](#)

Inland Flooding Impact

[Click to enlarge](#)

Tornado Impact

NOAA Tropical Satellite Imagery

Visible Imagery

Western Atlantic
[Click to enlarge](#)

Single Image / Loop

Central Atlantic
[Click to enlarge](#)

Single Image / **X**

Tropical Atlantic
[Click to enlarge](#)

Single Image / Loop

Infrared Imagery

Western Atlantic
[Click to enlarge](#)

Single Image / Loop

Central Atlantic
[Click to enlarge](#)

Single Image / **X**

Tropical Atlantic
[Click to enlarge](#)

Single Image / Loop

The information available on the Hurricanes tab is fairly self explanatory. The **Graphical Tropical Weather Outlook** is issued daily by the National Hurricane Center **at approximately 2 AM, 8 AM, 2 PM, and 8 PM EDT** during the June 1st to November 30th Atlantic Hurricane Season.

The **RECON data** are only available when active storm or storms are within range of the [Hurricane Hunter aircraft](#) in either the Atlantic or eastern Pacific basins.

The **NWS Wakefield Products** – Hurricane Local Statement (HLS) and Post-Storm Report (PSH) - are available only when a tropical storm/hurricane is approaching and/or has affected the region.



The **Tropical Cyclone Impact Graphics** are available once a tropical storm or hurricane **WATCH** is issued for some portion of the NWS Wakefield forecast area. These graphics are subsequently produced every 6 to 12 hours until all watches and/or warnings have been

discontinued.


All of the satellite imagery on this page are real-time.

The **“Click to Enlarge” feature** allows you to click on an image or link, except those denoted by a **red X**, and get a full size image without navigating away from this page.

5 – The Marine Weather Page

NWS Wakefield Marine Weather Page
"Working Toward a Weather-Ready Nation"
Suggestions for Improvement are welcome.








[How To Use This Page](#)

[Main EM/Briefing Page](#)
[Severe Thunderstorms](#)
[Tides/Coastal Flooding](#)
[Rivers/River Flooding](#)
[Extended Forecasts and Drought](#)
[Space Weather](#)
[Fire Weather](#)

[Rain and Snow Forecasts](#)
[Hurricanes](#)
[Marine Weather](#)
[Radar and Satellite](#)
[Climate Data](#)
[Maps and Models](#)
[Safety and Preparedness](#)

[Wakefield Radar](#)
[Dover AFB Radar](#)
[Forecast Graph](#)
[Forecast Table](#)
[Forecast Images](#)

Local Time : 8:52:09 a.m. UTC : 12:52:09 Z

[NOAA Charts - Booklet Format](#)

[Text/Graphical NOAA Tide Predictions for Virginia, Maryland, and North Carolina](#)

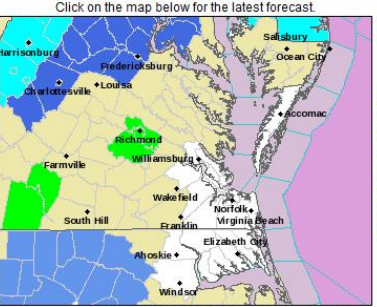
[WFO Wakefield, VA SKYWARN Spotter Page](#)

[WFO Wakefield, VA Home Page](#)

[Watch/Warning/Advisory Color Definitions](#)

[Weather Term/Abbreviations Glossary](#)

Click on the map below for the latest forecast



Read watches, warnings & advisories

Flood Warning
Gale Warning
Freeze Warning
Small Craft Advisory
Frost Advisory
Freeze Watch
Hazardous Weather Outlook

Last map update: Mon, Mar 26, 2012 at 8:48:01 am EDT

Location click location name for 2 day history	Sky/ Weather	Temp. (°F)	Dewpt. (°F)	Humidity (%)	Wind (mph)	Pressure (in)
OCEAN CITY	SUNNY	51	49	92	NW3	29.77R
SALISBURY	SUNNY	54	50	86	NW7	29.77R
ACCOMACK*	SUNNY	57	54	88	N9	29.79R
STAFFORD*	SUNNY	56	48	73	NW9	29.89R
FREDERICKSBURG*	SUNNY	58	46	64	NW3	29.85R
HANOVER	SUNNY	57	47	69	NW5	29.85R
TAPPAHANNOCK*	SUNNY	58	52	81	NW7	29.82R
RICHMOND	MOSUNNY	58	49	72	N10	29.84R
PETERSBURG	SUNNY	61	46	59	N10	29.84R
CHARLOTTESVILLE	PTCLDY	59	41	51	N8G18	29.86R
FARMVILLE*	CLEAR	57	46	67	CALM	29.85R
SOUTH HILL*	NOT-AVBL					
WILLIAMSBURG*	SUNNY	61	54	77	N10G16	29.81R
FRANKLIN*	MOSUNNY	57	57	100	CALM	29.81R
NORFOLK	MOSUNNY	61	52	72	N15G23	29.78R
VIRGINIA BEACH	MOSUNNY	58	53	84	N13G23	29.77R
NEWPORT NEWS	MOSUNNY	59	51	75	N8	29.80R
WAKEFIELD	SUNNY	58	50	75	N7	29.81R
ELIZABETH CITY	PTSUNNY	60	54	80	N13	29.77R
CURRITUCK*	CLOUDY	58	54	84	N13G18	29.78R
EDENTON*	CLOUDY	57	55	94	N10	29.79R
ROANOKE RAPIDS	MOSUNNY	59	54	82	N10	29.82R

Hourly observations from: 800 AM EDT MON MAR 26 2012

[NCEP SST Forecasts](#)

[Regional Observations](#)
Land and Water (map)

[Marine Observations](#)
Bay and Ocean (text)

[National Data Buoy Center \(NDBC\)](#)

[Chesapeake Bay Interpretive Buoys](#)

[Chesapeake Bay PORTS® Observations](#)
Northern Bay (Text)
Northern Bay (Map)
Southern Bay (Text)
Southern Bay (Map)

[Other Text Products](#)
Area Forecast Discussion
Marine Weather Warnings
Marine Weather Statement
Coastal Flood Watches and Warnings

[Rip Current Forecast](#)
Issued May 15 to October 1

The products and web pages linked in the right column of this page provide information from a number of sources. Under **Regional Observations**, the **Land and Water (Map)** takes you to the same map described at the end of page 4 of the full Users Guide, and repeated later in this section. The remaining links in the right column are self-explanatory. The remainder of the Marine Weather page is laid out nearly identical to the main Briefing Web Page. A detailed explanation of the links can be found in pages 3-7 of full Users Guide, or in the following pages. There are 2 additional links on the Marine page that are not on the main Briefing Page.

The link to **NOAA Charts – Booklet Format**, takes you to the NOAA Booklet Nautical Chart web page. NOAA Nautical charts in “booklet” format can be downloaded as a PDF from this site for any Atlantic location.

In addition, the link to **Text/Graphical NOAA Tide Predictions** takes you to the NOAA Tides and Currents tide prediction

page for the state you choose (VA, MD or NC). Click on the location of interest to obtain a 2 day text and graphic display of astronomical tide times and heights (in MLLW) for that location.

6 – The Tides and Coastal Flooding Page

The tides and coastal flooding page was created in an effort to consolidate information on tides, coastal flooding, and coastal flooding forecasts. Astronomical tide forecasts and observations (including weather observations at tide gages) are available from NOAA's National Ocean Service (NOS). Water level/coastal flooding forecasts are generated from both the NWS and NOS. These forecasts for sites in the NWS Wakefield area of responsibility can be obtained from the table on the right side of the Tides and Coastal Flooding page. Column header definitions are provided below.

Tide – The astronomical tide prediction from the [NOS Tides and Currents web site](#). NOAA astronomical tide predictions for all locations in [Virginia](#), [Maryland](#) and [North Carolina](#) can be obtained via the links above the map and table.

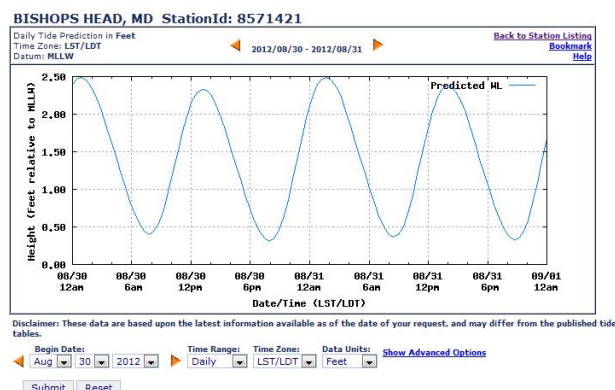
Forecasts – The forecasts column links to location specific web pages containing the following water level graphs: **Top Left** – Total Water Level (TWL) forecast produced by NWS Wakefield (new in December 2013); **Top Right** - NWS Extra-Tropical Storm Surge ([ETSS](#)) forecast; **Bottom Left** – [VIMS Tidewatch](#) forecasts; **Bottom Right** – the Chesapeake Bay Operational Forecast System ([CBOFS](#)) forecast from NOS. **Note:** Some locations (e.g. Bishops Head, MD and Duck, NC) only have 2 or 3 of the 4 types of forecasts/forecast guidance available.

Obs – Water level observations for highlighted sites from the [NOS Tides and Currents web site](#).

Met – Meteorological observations (wind, pressure, air temperature and/or water temperature) for highlighted sites from the [NOS Tides and Currents web site](#).

Below are examples of the above column headers.

Bishops Head, MD **Tide** Example:



Published Tide Tables Formats

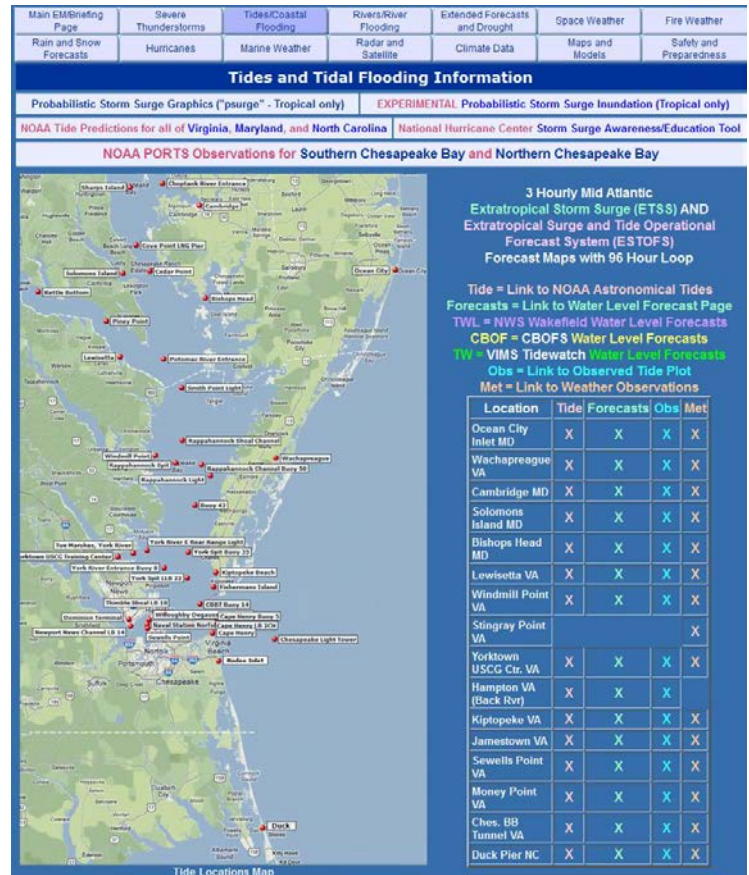
[Annual PDF](#) [Annual TXT](#) [Annual XML](#)

[Get Adobe Reader](#) [Printer Friendly](#)

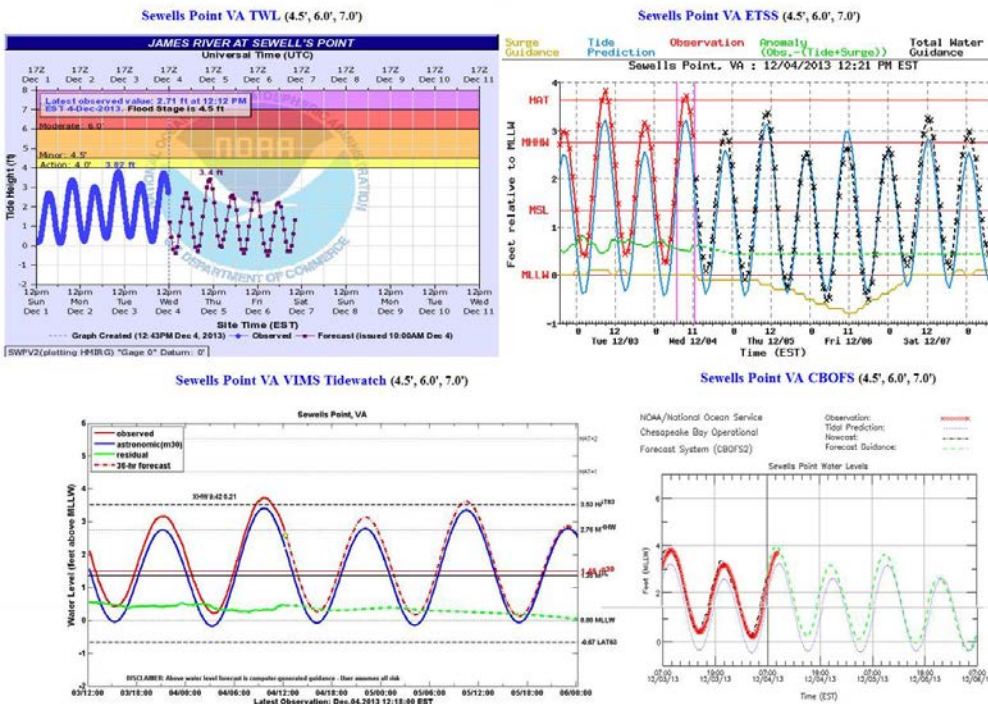
High/Low Tide Predictions in Feet from 2012/08/30 - 2012/08/31

Download: [TXT](#) [XML](#)

Date	Day	Time	Hgt
08/30	Thu	12:52 AM	2.5 H
08/30	Thu	07:47 AM	0.4 L
08/30	Thu	01:13 PM	2.34 H
08/30	Thu	07:56 PM	0.31 L
08/31	Fri	01:38 AM	2.49 H
08/31	Fri	08:31 AM	0.36 L
08/31	Fri	02:00 PM	2.38 H
08/31	Fri	08:46 PM	0.32 L



Sewells Point Coastal Flood Guidance Comparison



Example of Coastal Flood
Forecast page for Sewells
Point, VA.

Top Left: NWS Wakefield
Total Water Level (TWL)
forecast;

Top Right: ETSS forecast
from MDL;

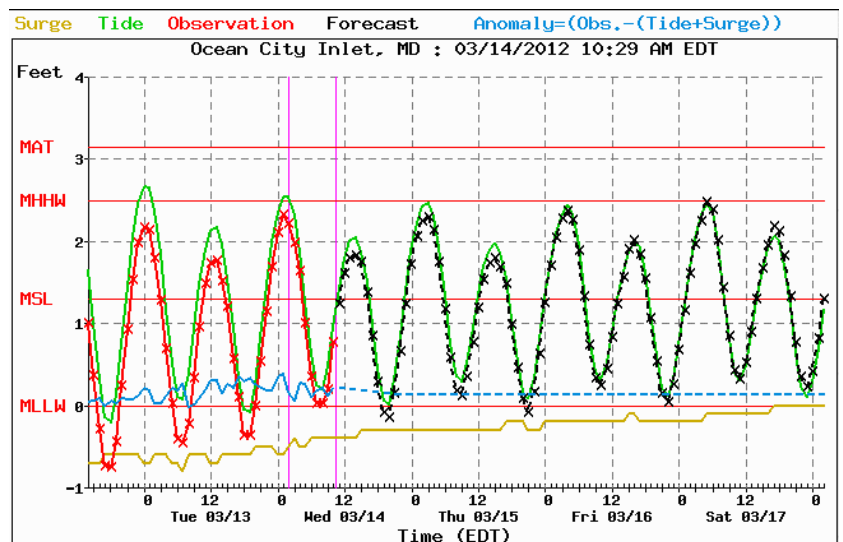
Bottom Left: VIMS
Tidewatch forecast;

Bottom Right: CBOFS
forecast.

Ocean City Inlet, MD ETSS Water Level
Forecast Example:

*Note the legend at the top relative to the
various line colors on the graph.*

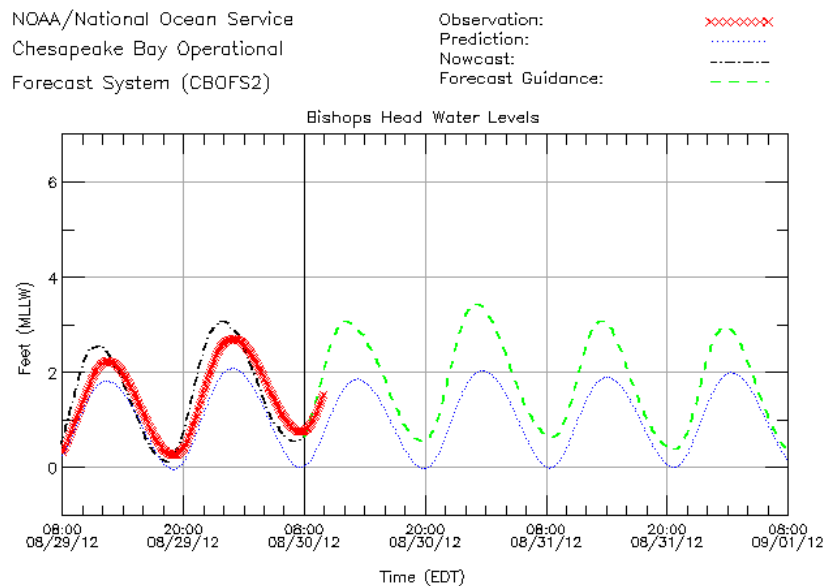
Link to [ETSS Graphs for all locations in
the NWS Marine Area.](#)



Bishops Head, MD **CBOFS** Water Level
Forecast Example:

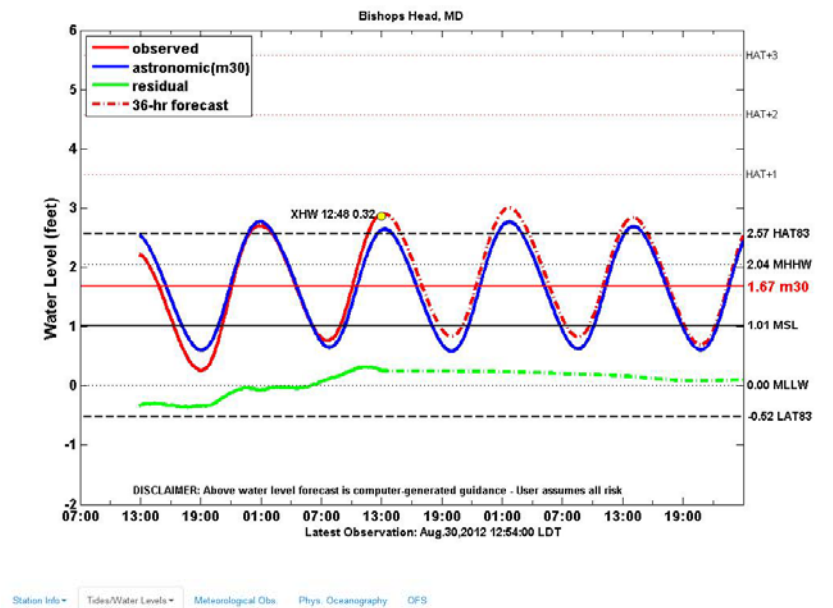
*Note the legend at the top relative to the
various line colors on the graph.*

Link to [CBOFS Graphs for all locations in
the NWS Marine Area.](#)



Bishops Head, MD Tidewatch Water Level Forecast Example:

Note the legend in the top left relative to the various line colors on the graph.



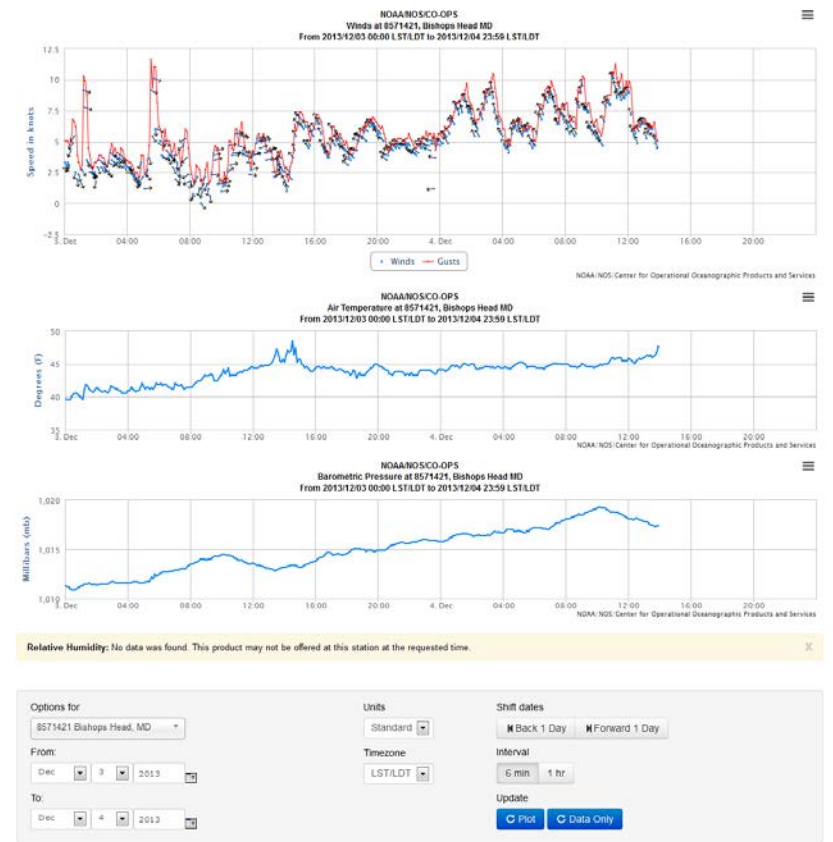
Ocean City **Observed** Water Level Example:

Note the legend below graph relative to the various line colors on the graph.



Bishops Head **Meteorological** observations Example:

Note the legend below graphs relative to the various line colors on the graphs.



NOAA PORTS Observations for Southern Chesapeake Bay and Northern Chesapeake Bay

Southern Chesapeake Bay PORTS, NOAA/NOS 2012-03-12 12:01 EDT

-----Water Levels (above MLLW)-----							
Yorktown USCG Center	1.5 ft, Rising	Kiptopeke Beach	2.0 ft, Rising				
Bay Bridge Tunnel	2.1 ft, Steady	Sewells Point	1.9 ft, Rising				
Money Point	2.0 ft, Rising						
-----Winds-----							
	Spd	Dir	Gusts		Spd	Dir	Gusts
York Riv E-R Rnge Lt	13 kn	SW	14	Yorktown USCG Center	10 kn	SW	16
Kiptopeke Beach	8 kn	SSW	8	Willoughby Degauss.	*** kn	***	***
Bay Bridge Tunnel	9 kn	SW	11	Dom. Term Pier 11	11 kn	SW	13
Cape Henry	10 kn	SSW	14	South Craney Island	7 kn	SSW	11
Money Point	10 kn	SSW	14				
-----Air and Water Temperature-----							
	Air	Water		Air	Water		
York Riv E-R Rnge Lt	58 °F		Yorktown USCG Center	60 °F	50 °F		
Kiptopeke Beach		50 °F	Willoughby Degauss.	*** °F			
Bay Bridge Tunnel	56 °F	49 °F	Dom. Term Pier 11	57 °F			
Sewells Point		51 °F	Cape Henry	62 °F			
Cape Henry Wave		49 °F	Money Point	63 °F	54 °F		
-----Barometric Pressure-----							
York Riv E-R Rnge Lt	1028 mb	Falling	Yorktown USCG Center	1028 mb	Falling		
Willoughby Degauss.	*** mb		Bay Bridge Tunnel	1029 mb	Falling		
Dom. Term Pier 11	1029 mb	Falling	Sewells Point	1030 mb	Falling		
Cape Henry	1028 mb	Falling	South Craney Island	1029 mb	Falling		
Money Point	1029 mb	Falling					
-----Salinity/Specific Gravity-----							
Station	Salin.	S.G.	Station	Salin.	S.G.		
Yorktown USCG Center	15.8 psu	1.013	Bay Bridge Tunnel	21.4 psu	1.017		
Sewells Point	14.1 psu	1.012	Money Point	12.6 psu	1.010		
-----Currents (F)lood, (S)lack, (E)bb, towards °T-----							
	Spd	Dir		Spd	Dir		
York Spit LBB 22	0.8 kn (F)	344.0°T	Thimble Shoal LB 18	*** kn ()	***°T		
Naval Sta Norf. LB 7	0.7 kn (F)	222.0°T	Dominion Terminal	*** kn ()	***°T		
Cape Henry LB 2CH	*** kn ()	***°T	N-port News Ch LB 14	*** kn ()	***°T		
-----Waves-----							
Station	SigHt	PkDir	PkPer	Station	SigHt	PkDir	PkPer
Cape Henry Wave	2.5 ft	111°T	11 s				

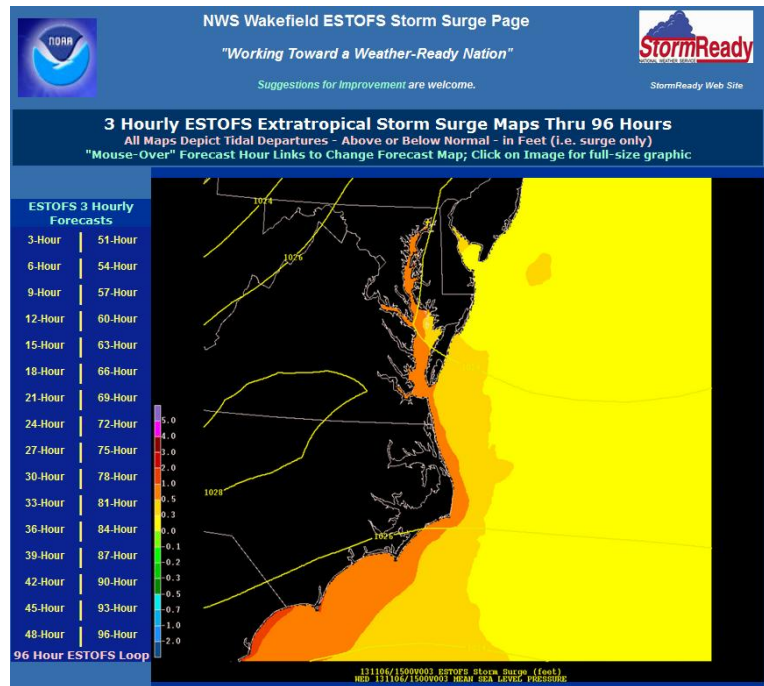
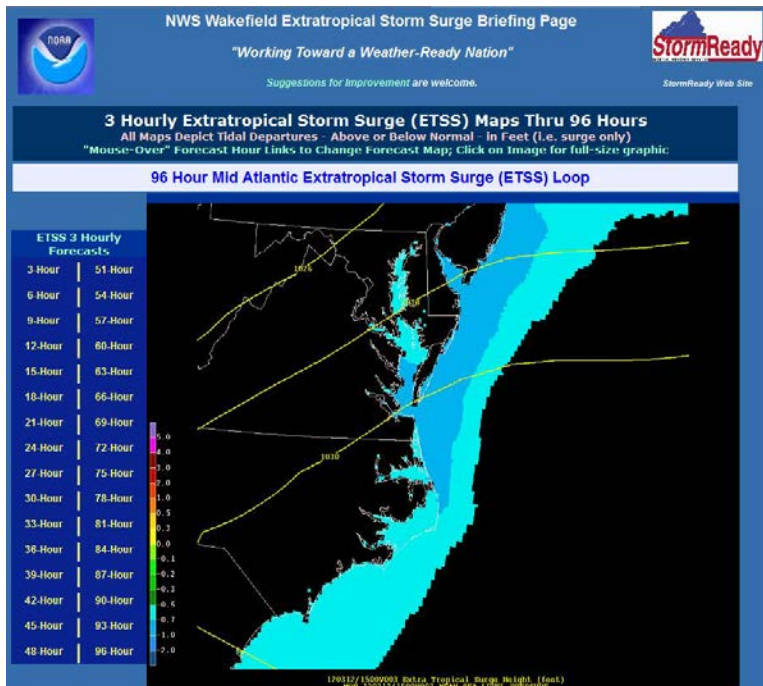
NOAA PORTS Observations Link

Just above the map and table are links to text based observations from the [NOAA Chesapeake Bay PORTS North](#) and [South](#) web sites (see image at left).

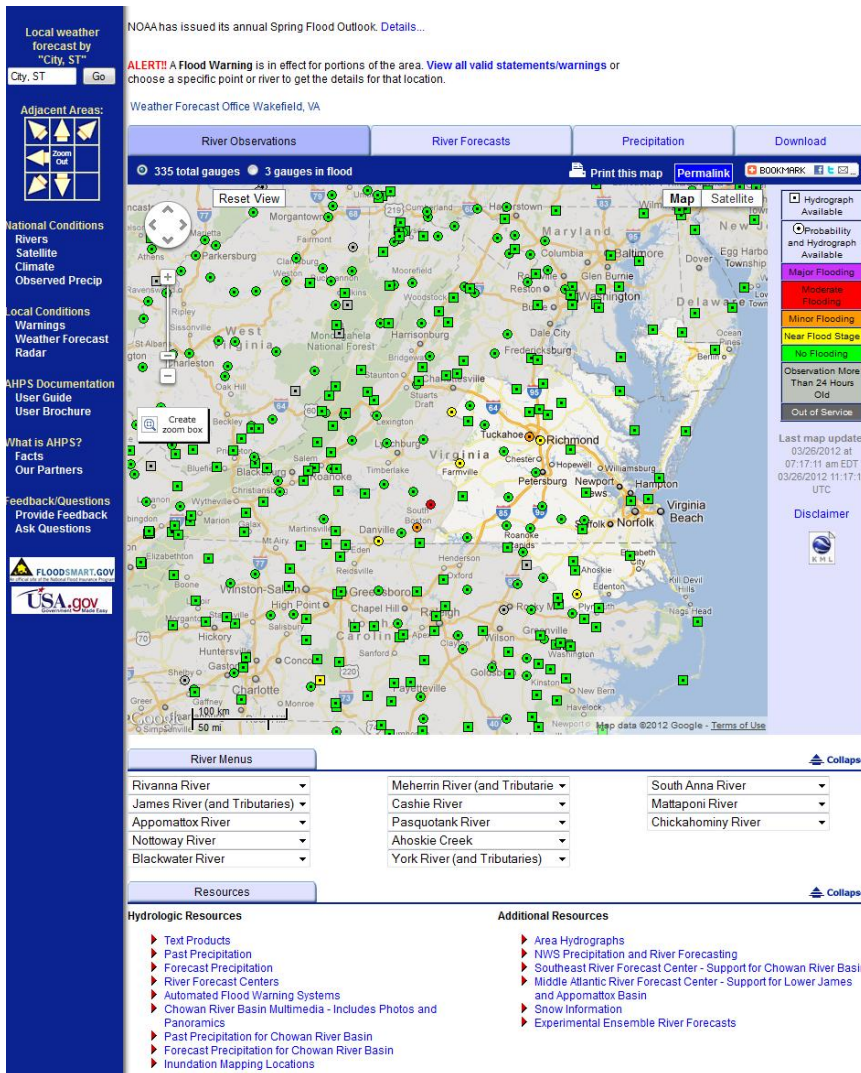
3 Hourly Mid Atlantic Extratropical Storm Surge (ETSS) AND Extratropical Surge and Tide Operational Forecast System (ESTOFS) Forecast Maps with 96 Hour Loop

projection (see map below). A link to a loop of these forecast maps is also provided on these pages.

Finally, a separate page has been created which provides maps of the *Extra-Tropical Storm Surge (ETSS)* and *Extratropical Surge and Tide Operational Forecast System (ESTOFS)* forecasts out to 96 hours using a mid-Atlantic are map



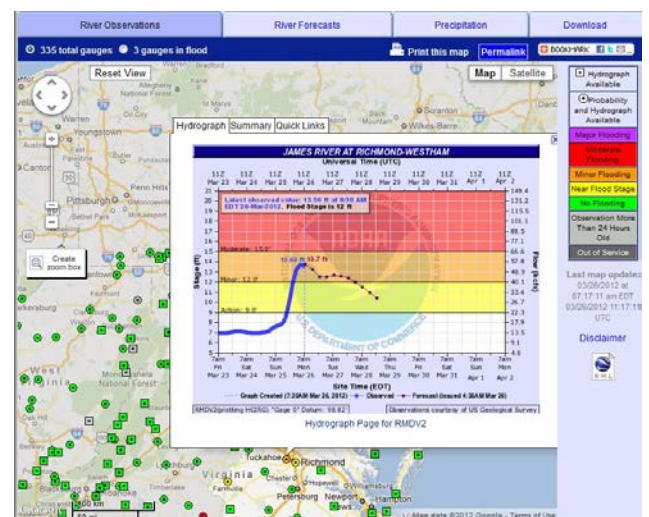
7 – The Rivers/River Flooding Page

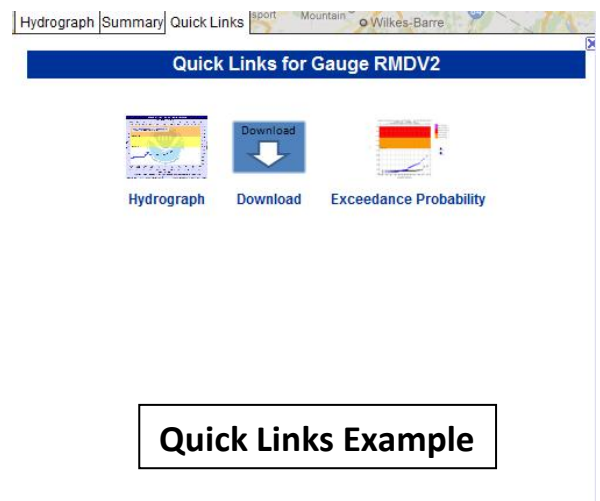
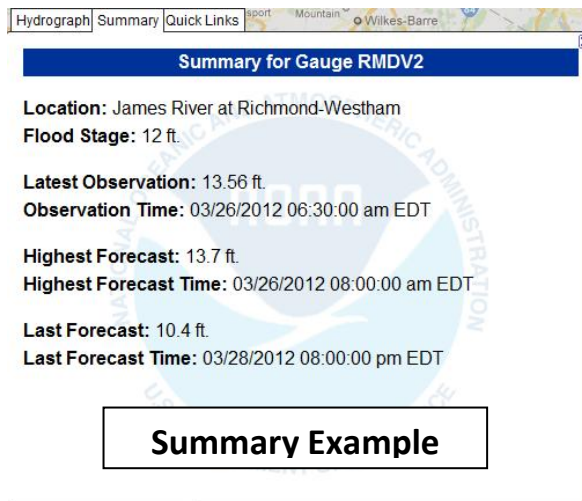


The Rivers and River Flooding tab takes you to the NWS Wakefield Advanced Hydrologic Prediction Service (AHPS) web page. The AHPS page has been upgraded to take advantage of a Google® map interface. Since NWS Wakefield is the State Liaison Office for Virginia, our AHPS view has been expanded to cover virtually every river and tide gauge in the Commonwealth. There are several types of gauges on this map. Some gauges provide observations and forecasts, while others are observation only. Still others are called “contingency” gauges. At contingency gauge points, observations are available continuously, but forecasts are only available when the river is forecast to reach or exceed the “Near Flood Stage” level at that location (see legend to the right of the map). The color of all gauge points on this map is dictated by the river level

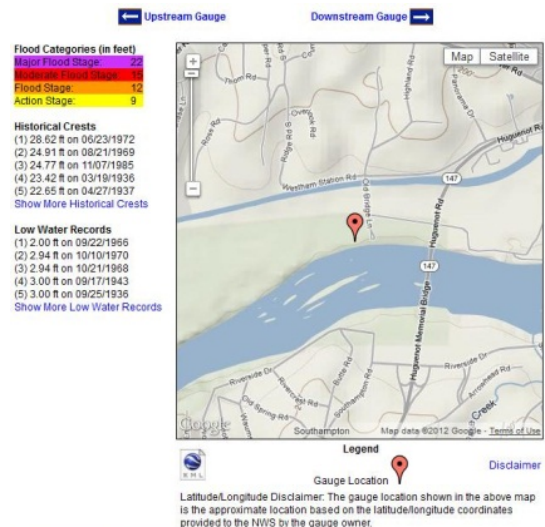
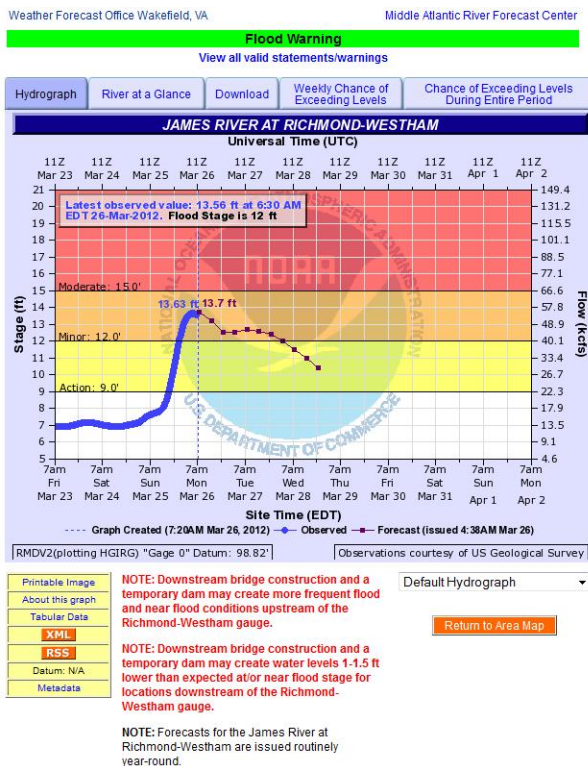
relative to its flood status. The legend for this status is provided to the right of the map. For example, and river gauge experiencing **Moderate Flooding** would be colored in **red**. A gauge location **below** the “Near Flood Stage” level (i.e. **“No Flooding”**) is colored **green**.

If you click on any gauge point, a large thumbnail of the gauge hydrograph will be displayed. In this case, the Richmond-Westham Gauge was selected. This gauge is both an observation and forecast point. Note the color of the hydrograph relative to the flood thresholds. In this case, the “Action” level refers to the “Near Flood Stage” level. Additional information can be obtained by clicking the **“Summary”** and **“Quick Links”** tab, or by clicking on the hydrograph (see next page).

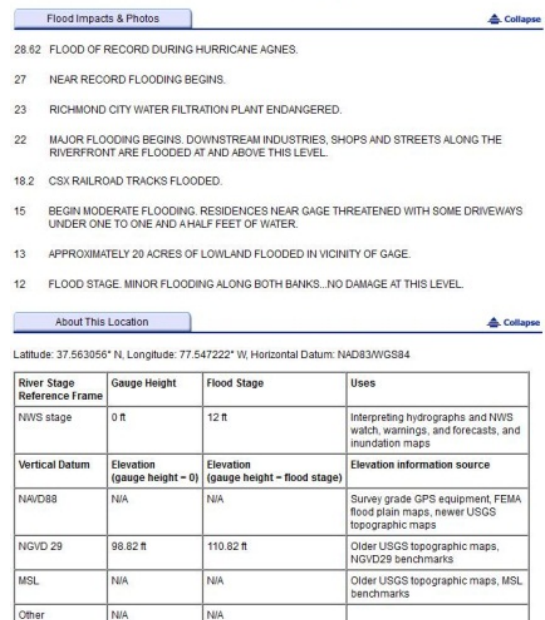




Clicking on the station hydrograph from the pop-up window takes you to a page providing a larger version of the hydrograph (see image to left), as well as detailed station information, including historical high/low water levels, and flood impacts, for that location (see below).



Above the hydrograph plot are 3 other tabs containing useful information – **River at a Glance**, **Weekly Chance of Exceeding Levels**, and **Chance of Exceeding Levels During Entire Period**. The content on these tabs will be discussed on the next 2 pages.



River at a Glance

Weather Forecast Office Wakefield, VA

Hydrograph

River at a Glance

Download

Weekly Chance of Exceeding Levels

Chance of Exceeding Levels During Entire Period

James River

Select the points:

and

Select the information you want:
NOTE: Availability of information varies.

☐ All

☐ at Lick Run

☐ at Buchanan

☐ at Holcomb Rock

☐ at Bent Creek

☐ at Scottsville

☐ at Brems Bluff

☐ at Cartersville

☐ at Richmond-Westham

☐ at Richmond Locks

☐ All

☐ Stage/Forecast Graph (Description)

☐ Stage/Forecast Text

☐ Flood Impacts

☐ Probabilistic Stage (Description)

☐ Probabilistic Flow (Description)

☐ Probabilistic Volume (Description)

☐ Stage Exceedance (Description)

☐ Flow Exceedance (Description)

☐ Volume Exceedance

☐ Location Map

☐ Record Crest History

☐ Low Flow

☐ Low Water Impacts

☐ Low Water Records

☐ XML

and Tributaries

☐ near Providence Forge

Make my River Page!

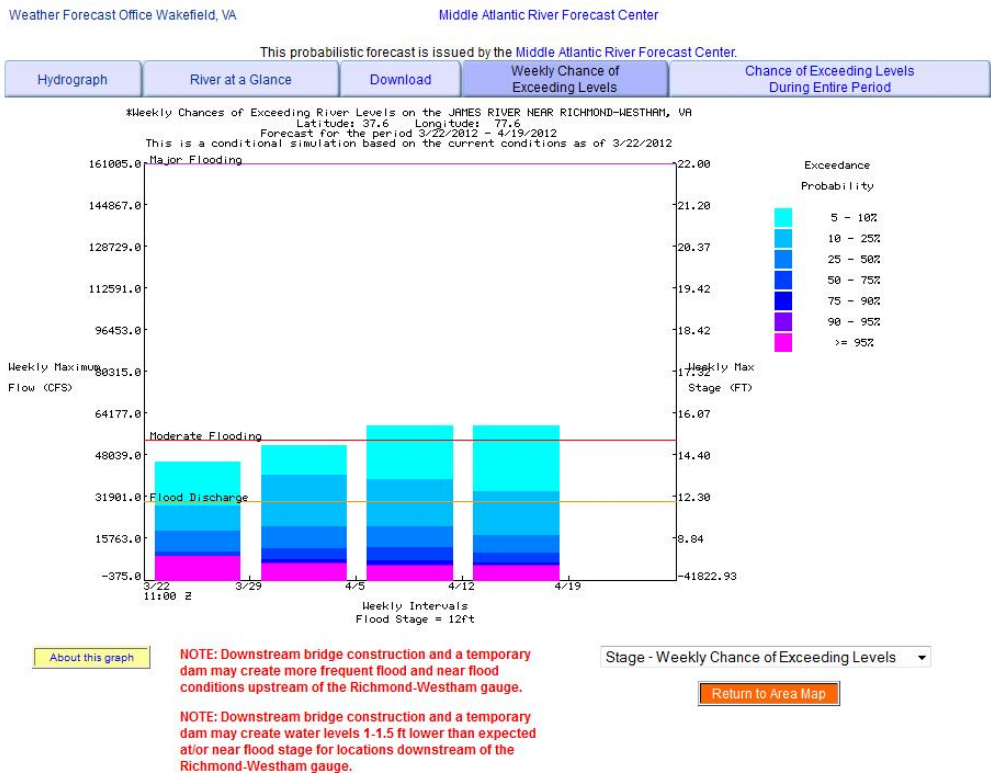
Clear

Return to Area Map

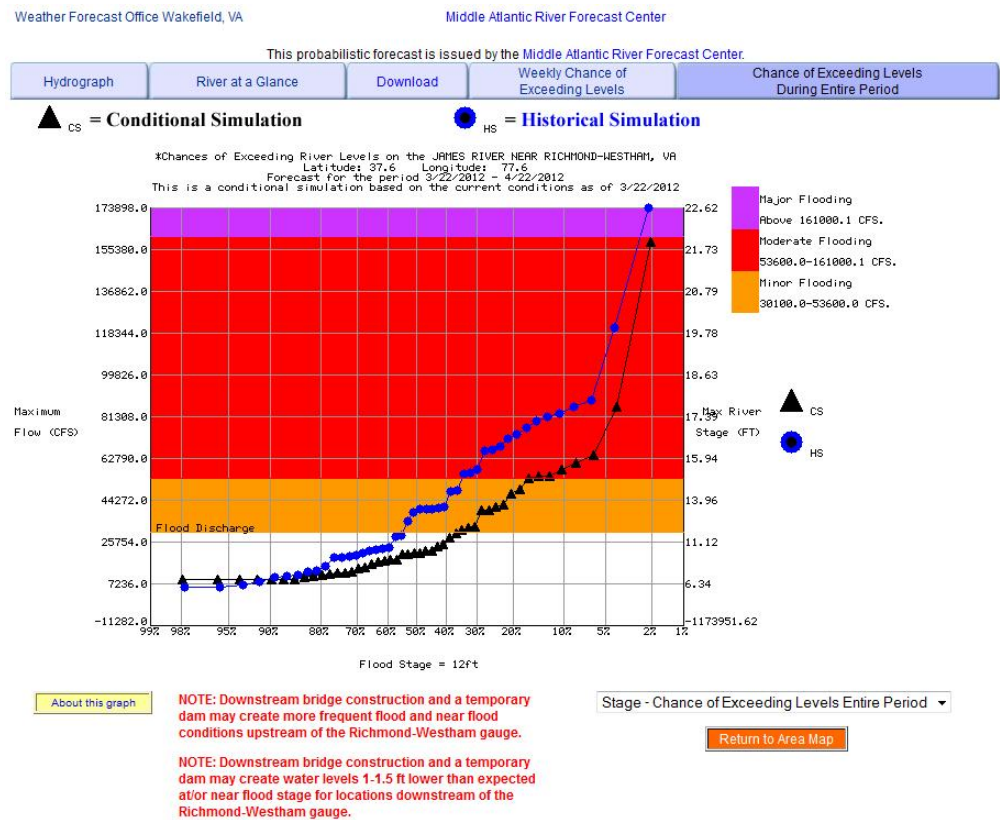
The **River at a Glance** interface allows the user to select what points on the river he/she would like information, and then select what information he/she would like to view. Be aware that, when you click **“Make my River Page!”**, the resulting page can be very long, depending upon the number of points and amount of data selected.

Weekly Chance of Exceeding Levels

The **Weekly Chance of Exceeding Levels** display is a probabilistic view of the weekly chance of reaching or exceeding certain levels within the next 4 weeks at that forecast point.



Chance of Exceeding Levels During the Entire Period



The **Chance of Exceeding Levels During the Entire Period** graph shows chances of the river stage, flow, or volume going above various levels during the forecast period labeled above the graph. Similar plots are usually available for one or more of these variables at this forecast location. The **Conditional Simulation (CS) line** indicates chances of the river going above given levels based on current conditions. The **Historical Simulation (HS) line** indicates the chances of the river going above given levels based on the total range of past levels.

8 – The Radar and Satellite Page

The screenshot shows the NWS Radar and Satellite Page. At the top, there's a navigation bar with links to various weather-related pages. Below this is the 'NWS Radar Data' section, which includes an 'EXPERIMENTAL National Radar Display'. The main feature is a large map of the United States showing radar data. Below the map, there are links for 'Full resolution version (220k)', 'Loop of this image', and 'Standard Version'. To the right of the map, there are four smaller radar maps for Dover AFB Radar, NWS Wakefield Radar, NWS Sterling Radar, and NWS Blacksburg Radar. Below these are four more radar maps for NWS Raleigh Radar, NWS Morehead City Radar, and two others. The bottom section is 'NOAA Satellite Imagery', which is divided into four categories: 'Infrared (IR) Imagery', 'Visible (VIS) Imagery', 'Water Vapor (WV) Imagery', and 'Tropical Satellite Images'. Each category shows several satellite images with 'Click to enlarge' links. Some links are marked with a red X, indicating they are not available.

The Radar and Satellite Page provides access to local radar data from NWS Wakefield, and all surrounding radars. Click on each of the individual local radar images to obtain the latest base reflectivity image for that site. In addition, you can choose specific radar products for all of the 6 local radars by clicking on the “Choose product” drop-down menu.

In addition to the 6 local radars, the national **NWS Radar Mosaic** image at the top left of the page is also an image map. Clicking on this map will take you to the latest base reflectivity image for the radar closest to the point on the map you clicked.

The **EXPERIMENTAL National Radar Display** link at the top of the page will take you to an interactive radar display

discussed on the next page.

There are 3 types of satellite imagery available on this page – **Infrared (IR)**, **Visible (VIS)** and **Water Vapor (WV)**. WV and IR imagery are available 24/7, while VIS imagery is only available during daylight hours. During the night, a gray scale IR image is substituted for VIS imagery. To obtain the latest imagery, or a loop of that imagery, click on the links below the image thumbnail. In most cases, the satellite loops are animated GIFs, making the loops compatible with mobile devices. For WFO Wakefield centered imagery, only Flash® loops are available.

The “**Click to Enlarge**” feature allows you to click on an image or link, except those denoted by a **red X**, and get a full size image without navigating away from this page. The radar image links **circled in green** also have the same functionality.

EXPERIMENTAL National Radar Display

The screenshot shows the 'National Mosaic - NAT' interface. At the top, there are buttons for 'Select New Radar' and 'Permalink', a search bar for 'City, ST or zip code', and a 'Find' button. Below the search bar, it says 'Refreshes in: 286 sec.' and a 'Refresh Now' button. A red circle highlights the 'Change Radar Product' button, with an arrow pointing to the text 'Change Radar Product'. The main map area shows a radar mosaic of the mid-Atlantic region, with a color scale on the right ranging from -20 to 80 DBZ. A red circle highlights the 'Roam and Zoom Controls' on the right side of the map. Below the map, there are several checkboxes and controls for map overlays and display settings. A blue circle highlights the 'Map Overlay and Display Controls' section, which includes options for 'Radar Overlay', 'Watch/Warning/Advisory Overlay', 'State Overlay', 'County Overlay', 'Road/City Overlay', and 'Polygon Warning Overlay'. There are also controls for 'Loop', 'Loop Speed', 'Opacity', 'HPC', and 'SPC'.

Change Radar Product

Roam and Zoom Controls


Map Overlay and Display Controls

The Experimental National Radar Display link at the top of the Radar and Satellite page takes you to an interactive national radar page that uses as Google® map interface. The default link is zoomed to the mid Atlantic region, but the radar perspective can be changed by using your mouse or the controls on the right side of the image. The page automatically refreshes every 5 minutes. Various map/watch/warning displays, including a 10 frame loop, can be toggled on/off in the area below the radar image. Above the radar image is a drop-down menu that allows you to select from 4 types of radar data.

All NWS WSR-88D Doppler radars were upgraded with Dual Polarization (Dual-Pol) in 2012. Several new Dual Pol radar products are available via the Experimental display. Instructions on how to access the Dual Pol radar products are provided on the next page.

9 – The Extended Forecasts and Drought Page

Main EM/Briefing Page	Severe Thunderstorms	Tides/Coastal Flooding	Rivers/River Flooding	Extended Forecasts and Drought	Space Weather	Fire Weather
Rain and Snow Forecasts	Hurricanes	Marine Weather	Radar and Satellite	Climate Data	Maps and Models	Safety and Preparedness

Climate Prediction Center (CPC) Multi-Season Outlooks NWS Multi-Sensor Daily Precipitation Analysis Page Water Conservation Tips From 

NCEP Days 0-7 Forecast Loop **NCEP Extended Forecast Discussions**

Long Range/Seasonal Forecasts, El Nino Status, and Drought Information
Click on Graphic to enlarge or be Re-directed to a Web Site Providing More Detailed Information

Day 3-7 U.S. Hazards

Day 8-14 U.S. Hazards

El Nino Anomaly Loop

Ocean Temp Anomalies

Extended Forecasts

6-10 Day Temp Forecast

6-10 Day Pcpn Forecast

8-14 Day Temp Forecast

8-14 Day Pcpn Forecast

30 Day Temp Outlook

30 Day Precip Outlook

90 Day Temp Outlook

90 Day Precip Outlook

Winter Outlook - Temperature

Winter Outlook - Precipitation

Drought Information

U. S. Drought Monitor

VA Drought Monitor

MD Drought Monitor

NC Drought Monitor

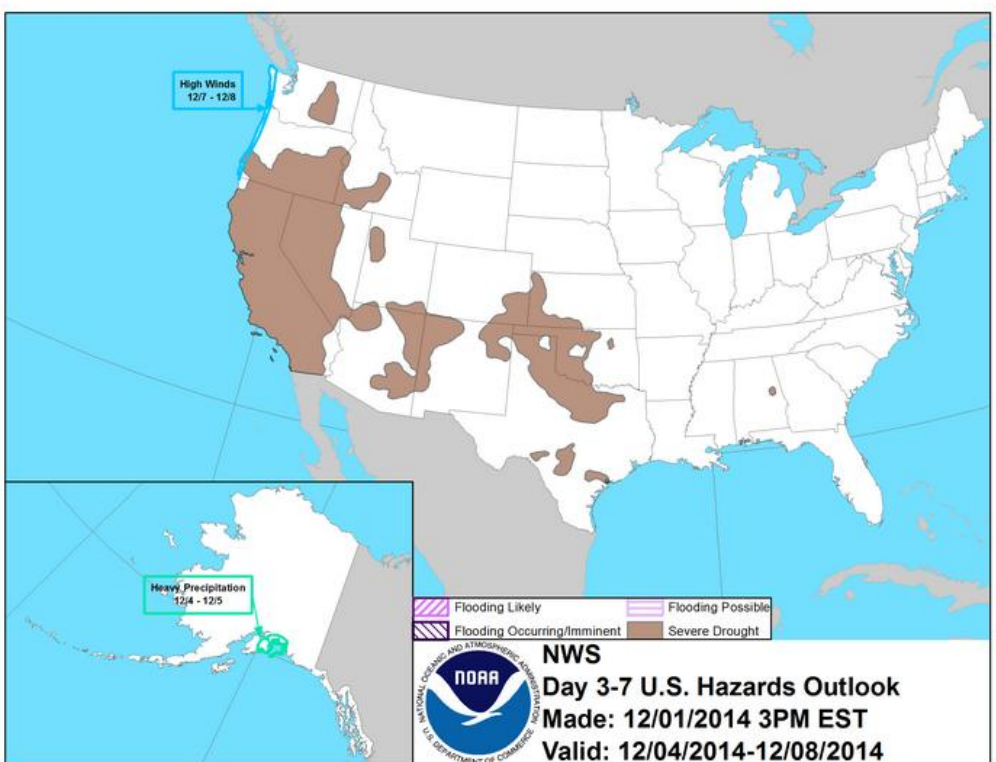
Palmer Index

Crop Moisture Index

Short-Term Drought Indicator

Long-Term Drought Indicator

U. S. Drought Outlook



NWS
Day 3-7 U.S. Hazards Outlook
Made: 12/01/2014 3PM EST
Valid: 12/04/2014-12/08/2014

NOTE: This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.

The information provided in the Extended Forecasts and Drought tab is fairly self-explanatory. However, the update time for the various graphics varies. Any **seasonal outlook (winter, hurricane, etc.) information** is added as appropriate. The graphics under **Drought Information** are **updated weekly on Thursdays**, while the **30 and 90 day outlooks** are issued the **third Friday of every month**. The **remaining graphics** are **updated daily by 4 pm**. The **Multi-Sensor Daily Precipitation Analysis Page** is described on page 11 of the main Guide, as well as on the next page (if viewing the Extended Forecasts and Drought Page users guide).

10 – The Climate Data Page

National Weather Service Forecast Office
Wakefield, VA

Home News Organization Search for

Local forecast by "City, St"
City, St Go

Current Hazards
Virginia
North Carolina
Maryland
National Warnings
Day 1 TSTM Outlook
Hazardous Weather
Day 2 TSTM Outlook
Send a Storm Report

Current Conditions
Observations
Satellite Images
Rivers
Rivers & Lakes
AHPS

Radar Imagery
Wakefield VA Radar
Nationwide

Forecasts
Tabular Forecasts
Public Forecasts
Graphic Forecasts
PDA Users

As part of its ongoing efforts to improve service to the public, The National Weather Service has released a local 3-month temperature outlook. Access the product for your area [here](#). Please click [here](#) to complete the feedback survey.

Observed Weather Reports

1. Product »
☒ Daily Climate Report (CLI)
☐ Preliminary Monthly Climate Data (CF6)
☐ Record Event Report (RER)
☐ Monthly Weather Summary (CLM)
☐ Regional Summary (RTP)

2. Location »
RICHMOND
NORFOLK
SALISBURY
ELIZABETH CITY
WALLOPS ISLAND

3. Timeframe »
☒ Most Recent
☐ Archived Data:
February 6th, 2012
February 5th, 2012
February 4th, 2012
February 3rd, 2012
February 2nd, 2012
February 1st, 2012

4. View »
Go

Storm Event Database (SPC)
Storm Data (HCDC)

Product Description:
DAILY CLIMATE REPORT - issued daily.
Detailed daily weather statistics (usually for yesterday), including temperature, precipitation, degree days, wind, humidity, sunrise/sunset, and record temperature data for the following day.
Precipitation data includes both calendar year and water year totals, percent of normal values, and comparisons to normal. This product is available for up to 2 months.

There are a number of different products and datasets available on the NWS Wakefield Climate web page. This guide will discuss the **Observed Weather, Local Data/Records** and **NOWData** tabs you see to the left.

Observed Weather

In the Observed Weather section of the Climate data page, **Daily Climate** and **Preliminary Monthly Climate (CF6)** information is available for the last 5 years. The Preliminary Monthly Climate (CF6) data is a

comprehensive overview of daily weather data in both a tabular and text form (see graphics below). An **explanation of how to use the CF6 table** can be found at the link above the data.

Select Other Date

[Explanation of the Preliminary Monthly Climate Data \(CF6\) Product](#)

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - <http://www.ncdc.noaa.gov>.

WFO Monthly/Daily Climate Data

000
CXUS51 KAKQ 071010
CF6SBY

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SALISBURY MD
MONTH: FEBRUARY
YEAR: 2012
LATITUDE: 38 20 N
LONGITUDE: 75 30 W

TEMPERATURE IN F:																	:PCPN:		SNOW:		WIND		:SUNSHINE: SKY				:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18										
12Z AVG MX 2MIN																												
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSEL	S-S	WX	SPD	DR										
1	68	50	59	23	6	0	T	0.0	0	9.3	20	240	M	M	2		26	240										
2	54	40	47	11	18	0	0.33	0.0	0	5.8	17	320	M	M	7	18	26	330										
3	50	29	40	4	25	0	0.00	0.0	0	6.3	18	320	M	M	0		23	320										
4	51	27	39	3	26	0	0.10	0.0	0	4.0	13	190	M	M	6	1	17	180										
5	45	27	36	0	29	0	0.01	0.0	0	5.3	15	360	M	M	7	18	20	360										
6	50	24	37	1	28	0	0.00	0.0	0	4.0	16	240	M	M	0	1	22	250										
=====																												
SM	318	197			132	0	0.44		0.0	34.7			M		22													
=====																												
AV	53.0	32.8								5.8	FASTST		M	M	4		MAX(MPH)											
										MISC	----	#	20	240			#	26	240									

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SALISBURY MD
MONTH: FEBRUARY
YEAR: 2012
LATITUDE: 38 20 N
LONGITUDE: 75 30 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 42.9 DPTR FM NORMAL: 6.9 HIGHEST: 68 ON 1 LOWEST: 24 ON 6	TOTAL FOR MONTH: 0.44 DPTR FM NORMAL: -0.27 GRST 24HR 0.33 ON 1- 2 SNOW, ICE PELLETS, HAIL TOTAL MONTH: 0.0 INCH GRST 24HR 0.0 GRST DEPTH: 0	1 = FOG OR MIST 2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS 3 = THUNDER 4 = ICE PELLETS 5 = HAIL 6 = FREEZING RAIN OR DRIZZLE 7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS 8 = SMOKE OR HAZE 9 = BLOWING SNOW X = TORNADO
[NO. OF DAYS WITH]	[WEATHER - DAYS WITH]	
MAX 32 OR BELOW: 0 MAX 90 OR ABOVE: 0 MIN 32 OR BELOW: 4 MIN 0 OR BELOW: 0	0.01 INCH OR MORE: 3 0.10 INCH OR MORE: 2 0.50 INCH OR MORE: 0 1.00 INCH OR MORE: 0	
[HDD (BASE 65)] TOTAL THIS MO. 132 DPTR FM NORMAL -42 TOTAL FM JUL 1 2032 DPTR FM NORMAL -683	CLEAR (SCALE 0-3) 3 PTCLDY (SCALE 4-7) 3 CLOUDY (SCALE 8-10) 0	
[CDD (BASE 65)] TOTAL THIS MO. 0 DPTR FM NORMAL 0 TOTAL FM JAN 1 0 DPTR FM NORMAL 0	[PRESSURE DATA] HIGHEST SLP M ON M LOWEST SLP 29.95 ON 2	
[REMARKS]		

Local Data/Records

At right, is a screen capture of the Local Data/Records tab. There is considerable local data available on this page, and we make every effort to keep the records and normals documents up-to-date.

NOWData

The NOWData tab allows the user to access some additional climate related data not available through the **Observed Weather** or **Local Data/Records** tabs. The NOWData interface is depicted in the screen capture below. Most of the locations for which data are available are Cooperative observers, who provide daily max/min temperature and precipitation data to the NWS.

This page provides local weather extremes and records, holiday weather, COOP data, and area climate summaries.

Observed Weather	Climate Locations	Climate Prediction	Climate Resources	Local Data/Records	Astronomical	NOWData
------------------	-------------------	--------------------	-------------------	---------------------------	--------------	---------

Unique Local Climate Data

Climate Data

- RICHMOND DAILY RECORDS & NORMALS
- NORFOLK DAILY RECORDS & NORMALS
- SALISBURY DAILY RECORDS & NORMALS
- ELIZABETH CITY 30 YEAR NORMALS
- ELIZABETH CITY DAILY RECORDS
- WALLOPS ISLAND DAILY RECORDS
- NWS WAKEFIELD CLIMATE DATA
- PFEL CLIMATE & MARINE FISHERIES

Climate Graphs

- RICHMOND HISTORICAL GRAPHS
- RICHMOND PRECIPITATION BY MONTH BREAKDOWN
- RICHMOND SNOWFALL BY MONTH BREAKDOWN
- DAILY CLIMATE PLOT ALL OFFICIAL LOCATIONS

Other

- WAKEFIELD WEATHER EVENT SUMMARY PAGE
- RICHMOND TOP 10 LIST AVG TEMPERATURE
- RICHMOND TOP 10 LIST PRECIPITATION
- Top 10 RICHMOND SNOW EVENTS
- NORFOLK TOP 10 LIST AVG TEMPERATURE
- NORFOLK TOP 10 LIST PRECIPITATION
- Top 10 NORFOLK SNOW EVENTSSnow Events
- FAQs & HOLIDAY CLIMATOLOGY NORFOLK
- FAQs & HOLIDAY CLIMATOLOGY RICHMOND
- ALL-TIME RECORD SNOWFALLS
- MONTHLY FACTOIDS SINCE 2002 RICHMOND & NORFOLK
- NEED CLIMATE OR WEATHER DATA FOR LEGAL USE
- CoCoRaHS...CoCoRaHS is an acronym for the Community Collaborative Rain, Hail and Snow Network

Observed Weather	Climate Locations	Climate Prediction	Climate Resources	Local Data/Records	Astronomical	NOWData
------------------	-------------------	--------------------	-------------------	--------------------	--------------	----------------

NOWData - NOAA Online Weather Data

1. Product » <ul style="list-style-type: none"><input type="radio"/> Daily data for a month<input type="radio"/> Daily almanac<input checked="" type="radio"/> Monthly avgs/totals<input type="radio"/> Monthly occurrences<input type="radio"/> Monthly extremes<input type="radio"/> Daily extremes<input type="radio"/> Daily/monthly normals<input type="radio"/> Record extremes<input type="radio"/> First/last dates	2. Location » <div>Norfolk Area</div> <div>Richmond Area</div> <div>Wallops Island Area</div> <div>Elizabeth City C, NC</div> <div>Ashland, VA</div> <div>Bremo Bluff, VA</div> <div>Camp Pickett, VA</div> <div>Crozier, VA</div> <div>Emporia 1 Whw, VA</div> <div>Farmville 2 N, VA</div>	3. Variable » <ul style="list-style-type: none"><input checked="" type="radio"/> Max Temperature<input type="radio"/> Min Temperature<input type="radio"/> Avg Temperature<input type="radio"/> Precipitation<input type="radio"/> Snowfall<input type="radio"/> Snow Depth<input type="radio"/> Heating Degree Days<input type="radio"/> Cooling Degree Days<input type="radio"/> Growing Degree Days	4. Year » <ul style="list-style-type: none"><input checked="" type="radio"/> Current year<input type="radio"/> Last year<input type="radio"/> 1981-2010	5. View » <div>Go</div>
--	---	---	--	--------------------------------

Product Description:

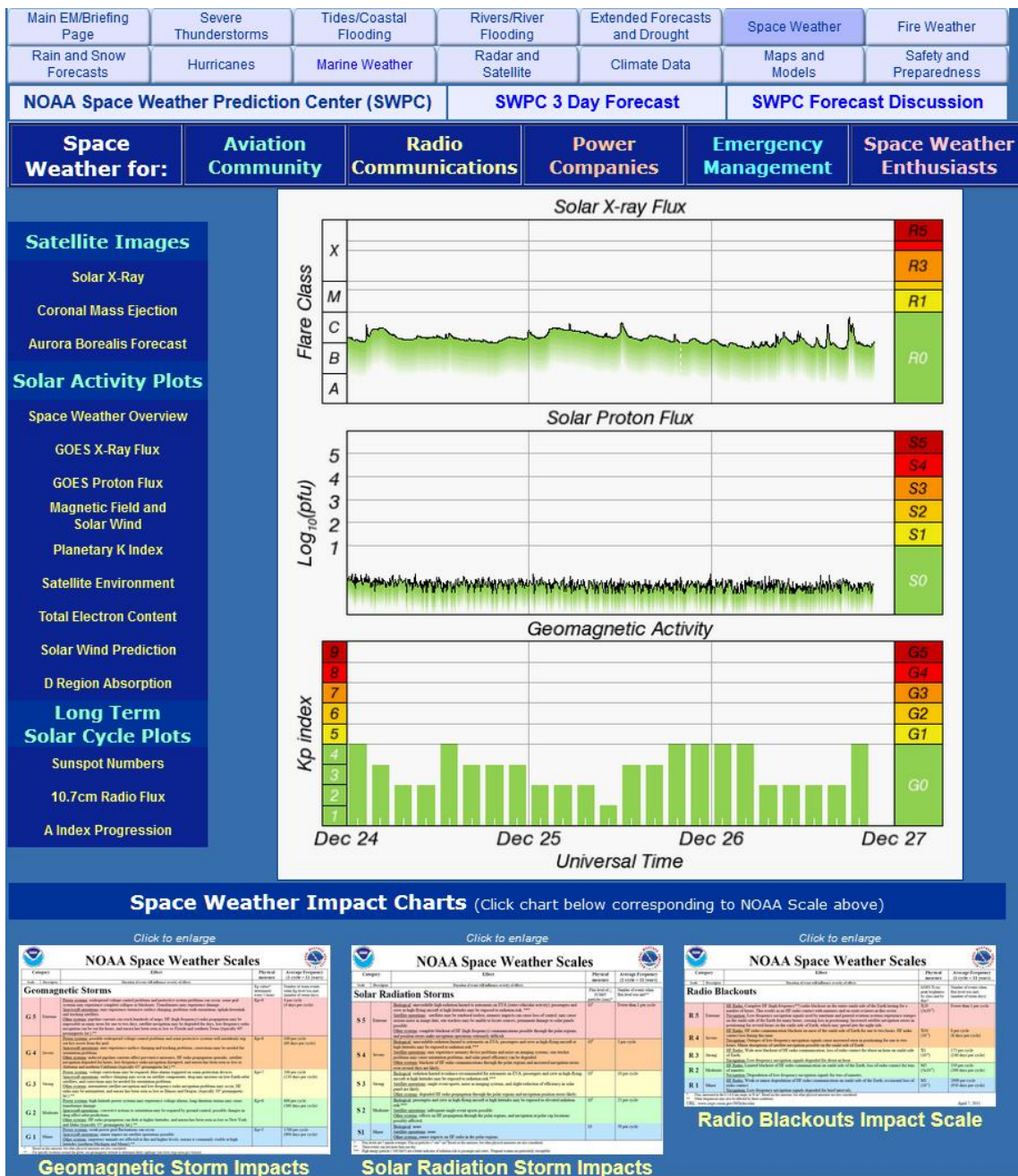
MONTHLY AVERAGES/TOTALS - calculates averages or totals, as appropriate, for the selected variable for each month of the year. This product is available for the current year, the previous year, or an average of the years 1971 through 2000. Additional stations and years of data are available from the Regional Climate Centers and the National Climatic Data Center.

- NCDC Map Services -
- Common questions -
- Submit a question/comment -

Powered by **ACIS**
NOAA Regional Climate Centers

The Applied Climate Information System (ACIS) is a joint project of the Regional Climate Centers, the National Climatic Data Center and the National Weather Service. Official data and data for additional locations and years are available from the Regional Climate Centers and the National Climatic Data Center.

11 – The Space Weather Page



The Space Weather Page was created to provide a quick overview of solar activity, and the potential impacts of solar storms. [NOAA's Space Weather Prediction Center \(SWPC\)](#) is responsible for monitoring space weather conditions, and issuing warnings and advisories for significant solar activity. Of greatest importance on this page is the table associated with Space Weather Overview. The impacts related to corresponding to the activity level (G1-5, S1-5 or R1-5) can be found by clicking the appropriate table under **Space Weather Impact Charts**. The SWPC also issues periodic discussions during solar events. Those discussions are available at the link above the SWPC images and graphs. Links to SWPC web pages for various space weather user groups are provided above the SWPC graphics.

12 – The Maps and Models Page

NOTE: This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.

Main EM/Briefing Page	Severe Thunderstorms	Tides/Coastal Flooding	Rivers/River Flooding	Extended Forecasts and Drought	Space Weather	Fire Weather
Rain and Snow Forecasts	Hurricanes	Marine Weather	Radar and Satellite	Climate Data	Maps and Models	Safety and Preparedness

Current Weather/ Observations	Regional Surface Observations			Latest NCEP Surface Analysis		
	Mesonet Surface Observation Map					
	Forecast Models	GFS	NAM	SREF	GFS Ens Spaghetti	GFS Ens Mean
	WFO Local WRF	4km NAM	RAP	Hi-Res ARW	Hi-Res Rapid Refresh (HRRR)	Hi-Res NMM

Days 1-7 Surface Maps and Discussions		
NCEP Days 0-7 Forecast Loop	NCEP Short-Range Model Discussion	NCEP Day 3-7 Discussion

Understanding These Maps

Surface Map Legend

Precip Legend

NCEP Surface Maps (Mouseover)

U.S. Surface Analysis

National Radar Image

12-Hr Forecast

24-Hr Forecast

36-Hr Forecast

48-Hr Forecast

Short Term Loop

Day 3 Forecast

Day 4 Forecast

Day 5 Forecast

Day 6 Forecast

Day 7 Forecast

Low Tracks Error Circle

Low Tracks Ensemble

The Maps and Models tab provides additional resources for analyzing current conditions, forecast models, and forecast surface maps through day 7. The links are fairly self explanatory, so a detailed explanation is not necessary. The [Mesonet Surface Observation Map](#) link takes you to the same map discussed in Section 1b of the main guide (and on the last page, if you are viewing the *Maps and Models page* specific users guide).

The Forecast Model portion of the page now contains links taking you directly to that model output, mostly via the [NCEP Model Guidance Page](#).

The links for *GFS Ens Spaghetti* and *GFS Ens Mean* represent the “spaghetti” plots and ensemble mean plots from the GFE ensemble forecasts. The *NAEFS* links to the *North American Ensemble Forecast System* output.

NCEP Home > NCEP Central Operations > Systems Integration Branch > Model Analyses and Guidance

Model Analyses and Guidance

[Check Here For Message Of The Day](#)

[Read Latest Information and News](#)

Select Model Guidance, Observations and Analyses, or Tropical Guidance

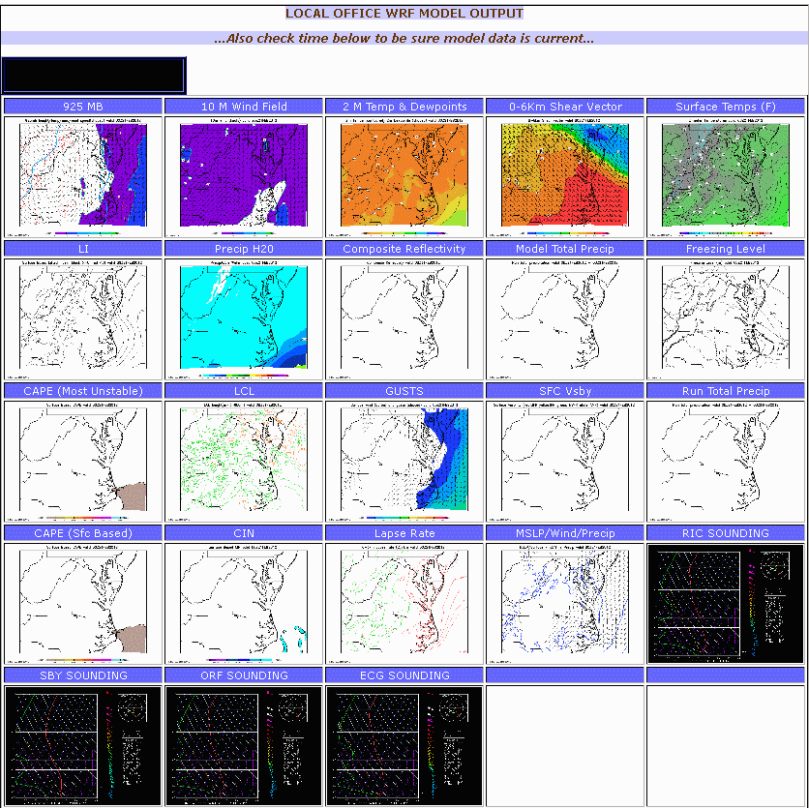
MODEL GUIDANCE	OBSERVATIONS AND ANALYSES	TROPICAL GUIDANCE
----------------	---------------------------	-------------------

[USER'S GUIDE](#)
[Frequently Asked Questions](#)
[Upcoming Changes](#)
[Training](#)

More information is available in the [Product Description Document](#)

At left is a screen capture of the [NCEP Model and Analysis website interface](#). This [NCEP Model and Analysis Page](#) also has a [detailed User's Guide](#).

The **WFO Wakefield Local WRF Model** is run twice daily, providing forecast output of a number of variables through 24 hours from the model start time. The image at right is a screen capture of our local WRF model page.



Finally, the **Hi-Res Rapid Refresh (HRRR) Model** is run hourly, and provides output out to 15 hours from the model forecast start time. A partial screen capture of the HRRR model page is provided below.

HRRR Model Fields - Experimental

Model: HRRR primary Area: Full Date: 21 Feb 2012 - 14Z

Model:

HRRR.primary

 Domain:

Full

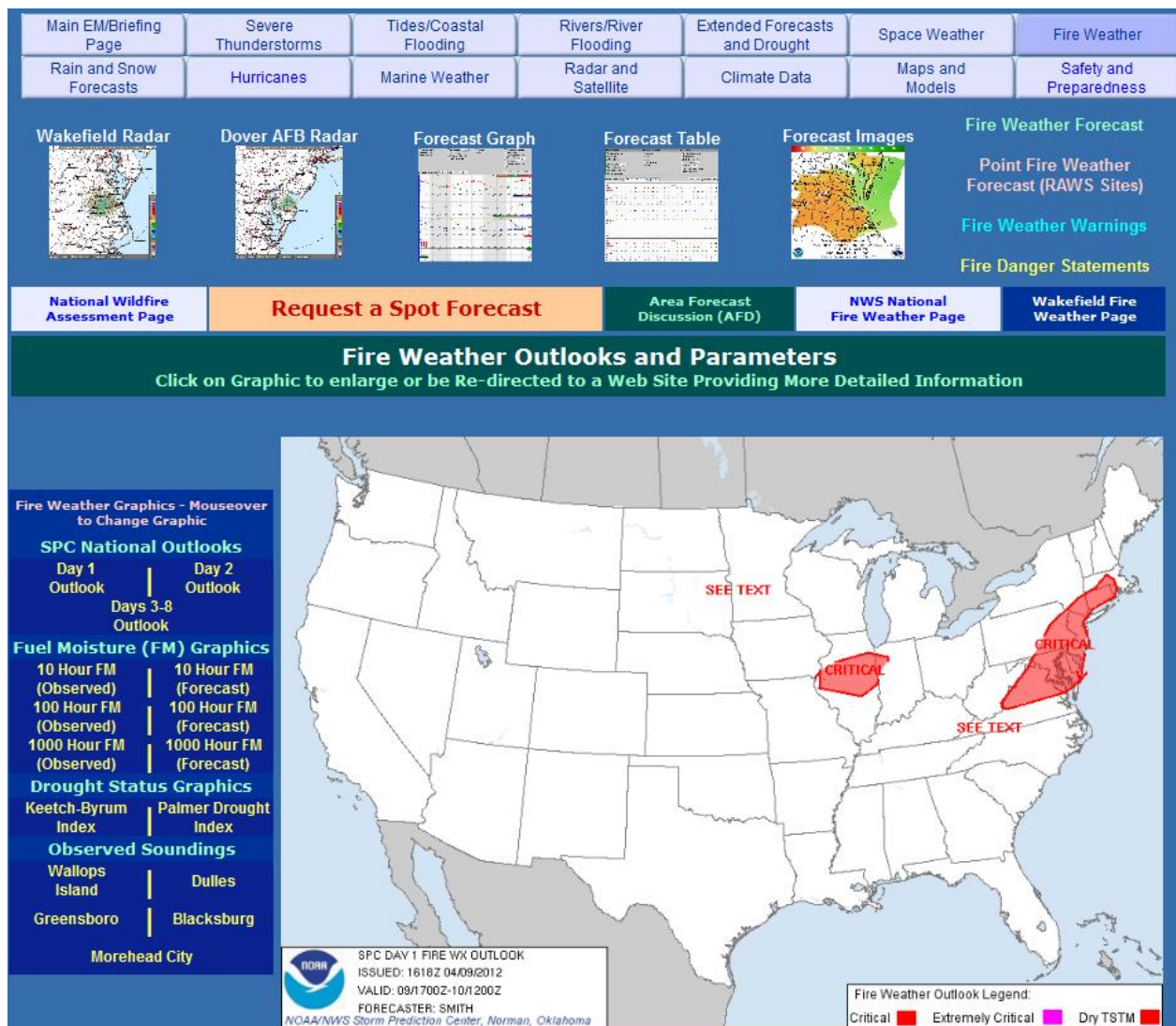
 Date:

21 Feb 2012 - 14Z

			Valid Time																
			Tue 14	Tue 15	Tue 16	Tue 17	Tue 18	Tue 19	Tue 20	Tue 21	Tue 22	Tue 23	Wed 00	Wed 01	Wed 02	Wed 03	Wed 04	Wed 05	
			Forecast																
All times	Loop		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	
all fields			.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
1 km agl reflectivity	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
composite reflectivity	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
ensemble comp reflectivity	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
max 1 km agl reflectivity	✓	✓		.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
surface CAPE	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
surface CIN	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
mixed CAPE	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
most unstable CAPE	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
most unstable layer CAPE	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
best LI	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
LCL	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
0-1 km shear	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
0-6 km shear	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
0-1 km helicity, storm motion	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
0-3 km helicity, storm motion	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
2-5 km updraft helicity	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
1-6 km updraft helicity	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
2-5 km max updraft helicity	✓	✓		.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
1-6 km max updraft helicity	✓	✓		.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
ensemble updraft helicity	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
convective activity 1	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
convective activity 2	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	
convective activity 3	✓	✓	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	

13 – The Fire Weather Page

NOTE: *This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.*



The Fire Weather Briefing Page is designed to allow customers with fire and fire suppression related interests to access fire weather information and forecasts from national and local sources. The links to the **Forecast Graph**, **Forecast Table**, and **Forecast Images** are described on pages 6 and 7 of the main users guide, and after this page (if you are looking at the fire weather page users guide). Also, to the left of these links are links to our **text fire weather forecast**, **RAWS point Fire Weather Forecast**, and **Fire Weather Warning and Danger Statements**.

Forestry and forestry management professionals can request a spot (or location specific) fire weather forecast via the link above the fire weather graphics. The requests are received at forecaster workstations and forecasts are usually generated within 15-20 minutes of the spot forecast request.

14 – The Safety and Preparedness Page

NWS Wakefield Safety and Preparedness Page
"Working Toward a Weather-Ready Nation"
 Suggestions for improvement are welcome.
 How To Use This Page

Ready Virginia, FEMA, ReadyNC.org, MARYLAND

Main EM/Briefing Page, Severe Thunderstorms, Tides/Coastal Flooding, Rivers/River Flooding, Extended Forecasts and Drought, Space Weather, Fire Weather, Rain and Snow Forecasts, Hurricanes, Marine Weather, Radar and Satellite, Climate Data, Maps and Models, Safety and Preparedness

Thunderstorm, Tornado and Lightning Safety
 Tstms, Tornadoes and Lightning, Lightning Safety, Lightning Safety for Coaches

Winter Weather Safety
 Winter Storms, Wind Chill

NOAA Weather Radio
 NOAA Weather Radio, Regional Weather Radio Map

Hurricane Safety and Preparedness
 Hurricanes and Tropical Storms, Tropical Cyclone Flooding, Hurricane Preparedness, VA Hurricane Guide, VA Hurricane History

Flooding Safety
 Floods and Flood Safety, Turn Around Don't Drown

Heat Safety
 Heat Wave

Miscellaneous Safety and Preparedness
 Owlle SKYWARN (For Kids), StormReady Brochure, TsunamiReady Brochure, Tsunami - The Great Waves, Tsunami Warning Center, Storm Spotters Guide

Additional Resources
 NWS Office & Internet Sites, NOAA Cloud Chart, Past Events Web Page, Locally Produced Climate Info, NWS Wakefield Warning Criteria, USGS Earthquake Info

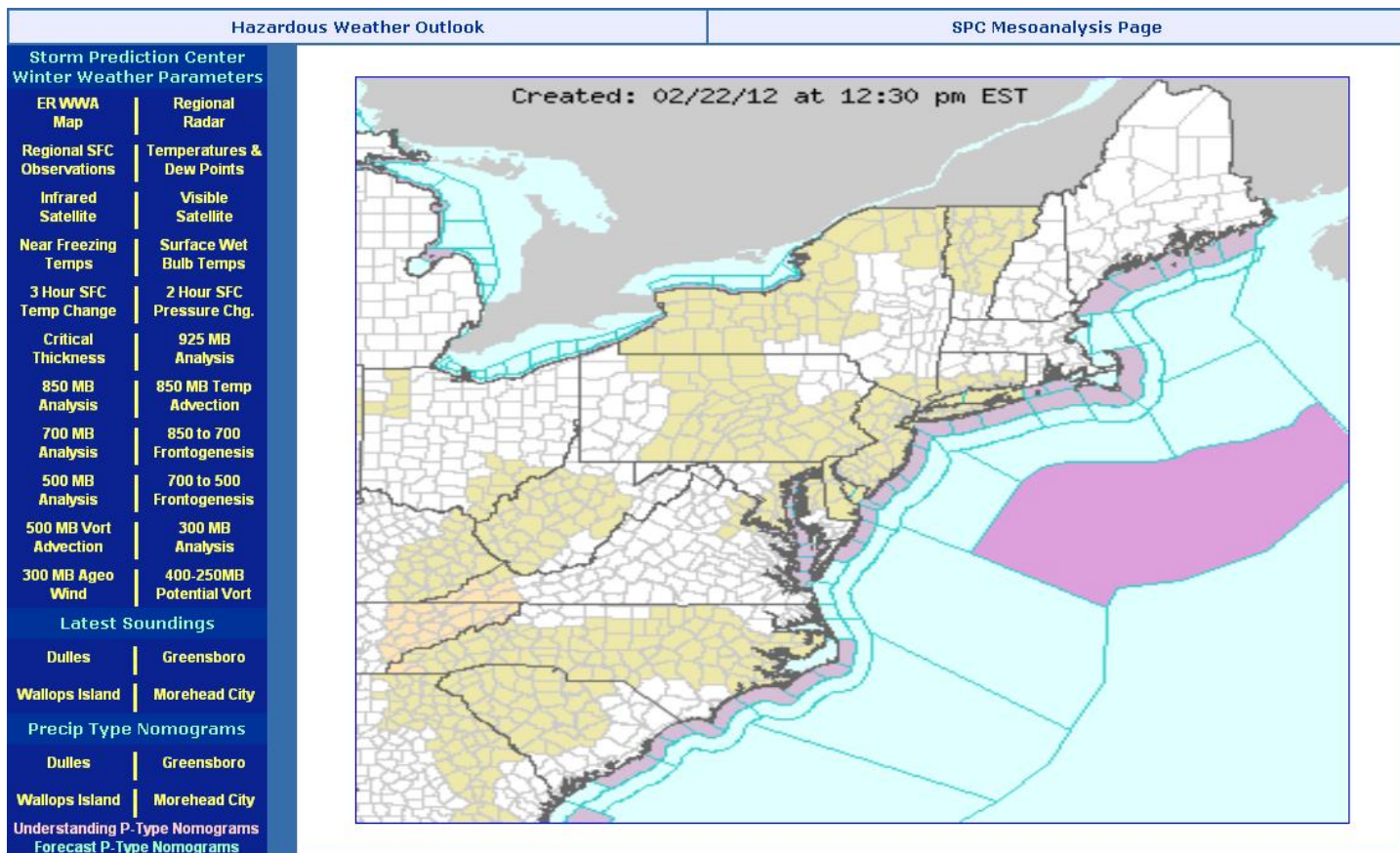
The Safety and Preparedness Page contains natural hazard brochures, fact sheets, and other safety and preparedness materials. Many of the brochures are prepared jointly by NOAA, FEMA and the American Red Cross. Some materials, such as [VA Hurricane History](#), [NWS Offices and Internet Sites](#), and the [Regional Weather Radio Map](#), are locally prepared and periodically updated. Under Additional Resources are links to NWS Wakefield's [Past Events Web Page](#), which contains descriptions of many of the significant weather events affecting Virginia since 1995; and a link to [Locally Produced Climate Info](#). The information on the [Locally Produced Climate Info](#) page is all produced at NWS Wakefield, and an effort is made to keep the data and information on this page as up-to-date as possible. Links to USGS earthquake info, and the Alaska Tsunami Warning Center (which serves the U.S. East Coast), are provided.

In addition, at the top left of this page are links to the [ReadyVirginia](#), [ReadyNC](#), [Ready.gov](#) and [Maryland Emergency Management](#) preparedness web sites.

Appendix A – The Winter Mesoanalysis Page

NOTE: *This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.*

The Severe Thunderstorm Mesoanalysis page is designed to provide a real-time picture of thunderstorm and/or severe thunderstorm potential. The graphics on this page are mostly from the SPC Mesoanalysis Page (linked above the graphics), utilizing the Mid Atlantic sector. Although many of the parameters are well known to meteorologists, others require some explanation (see descriptions below graphic).



Frontogenesis – The generation or intensification of a front. It occurs when warm air converges onto colder air, and the horizontal temperature gradient amplifies by at least an order of magnitude.

Advection – Transport of an atmospheric property by the wind. Most often used to describe increases or decreases in temperature or moisture.

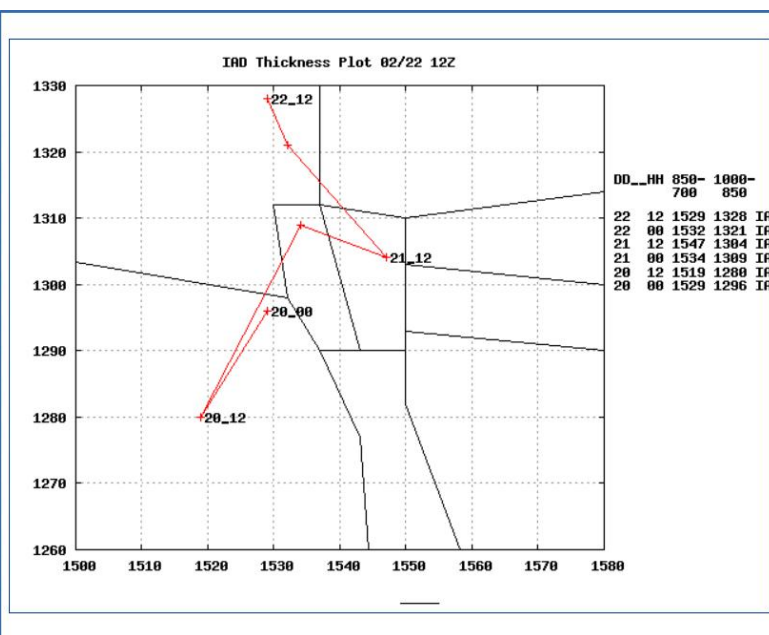
Potential Vort (Potential Vorticity) – This plays an important role in the generation of vorticity (cyclonic turning in the atmosphere) in cyclogenesis, especially along the polar front. It is also very useful in tracing intrusions of stratospheric air deep into the troposphere in the vicinity of jet streaks.

Appendix A1 – The Precip Type Nomogram Page

NOTE: *This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.*

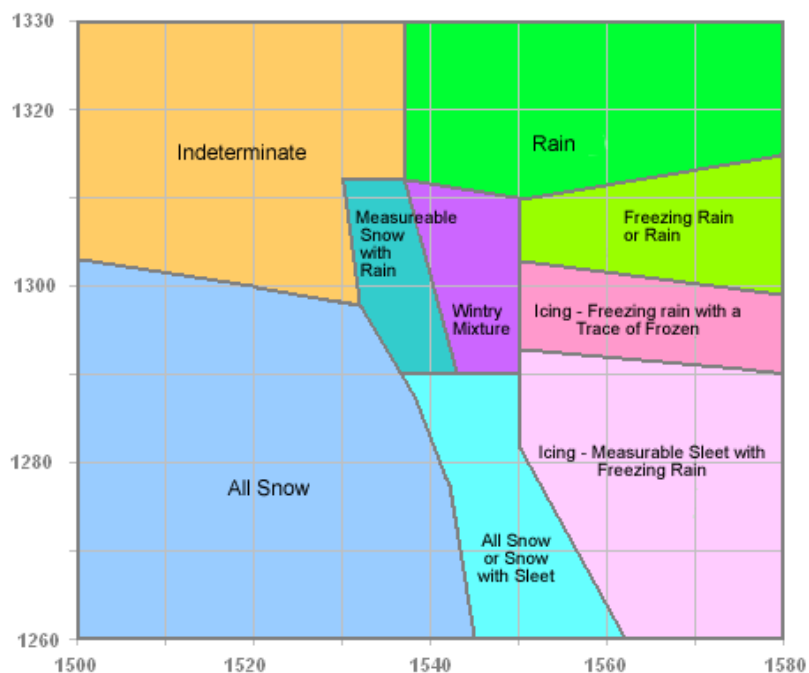
Precipitation type nomograms can be a quick way to determine precipitation type, or the evolution of precipitation types, during a winter weather event. This page shows nomograms for weather balloon observations from Dulles Airport, VA, Greensboro, NC, Morehead City, NC and Wallops Island, VA. In addition, forecast precipitation type

Understanding P-Type Nomograms				
Observed Precip Type Nomograms				
IAD	GSO	WAL	MHX	
Forecast Precip Type Nomograms				
Courtesy WFO Raleigh				
Charlottesville VA				
RUC	WRF	NAM	SREF	GFS
Dulles Airport VA				
RUC	WRF	NAM	SREF	GFS
Salisbury MD				
RUC	WRF	NAM	SREF	GFS
Farmville VA				
RUC	WRF	NAM	SREF	GFS
Richmond VA				
RUC	WRF	NAM	SREF	GFS
Danville VA				
RUC	WRF	NAM	SREF	GFS
Raleigh NC				
RUC	WRF	NAM	SREF	GFS
Roanoke Rapids NC				
RUC	WRF	NAM	SREF	GFS
Norfolk VA				
RUC	WRF	NAM	SREF	GFS
Elizabeth City NC				
RUC	WRF	NAM	SREF	GFS



nomograms for about a dozen locations in and around the NWS Wakefield area of responsibility are available for the following models – RUC (Rapid Update Cycle); WRF (Weather Research and Forecast); NAM; SREF (Short-Range Ensemble); GFS; and GEM (Canadian). These nomograms are all available courtesy of WFO Raleigh, NC.


P-Type Categories

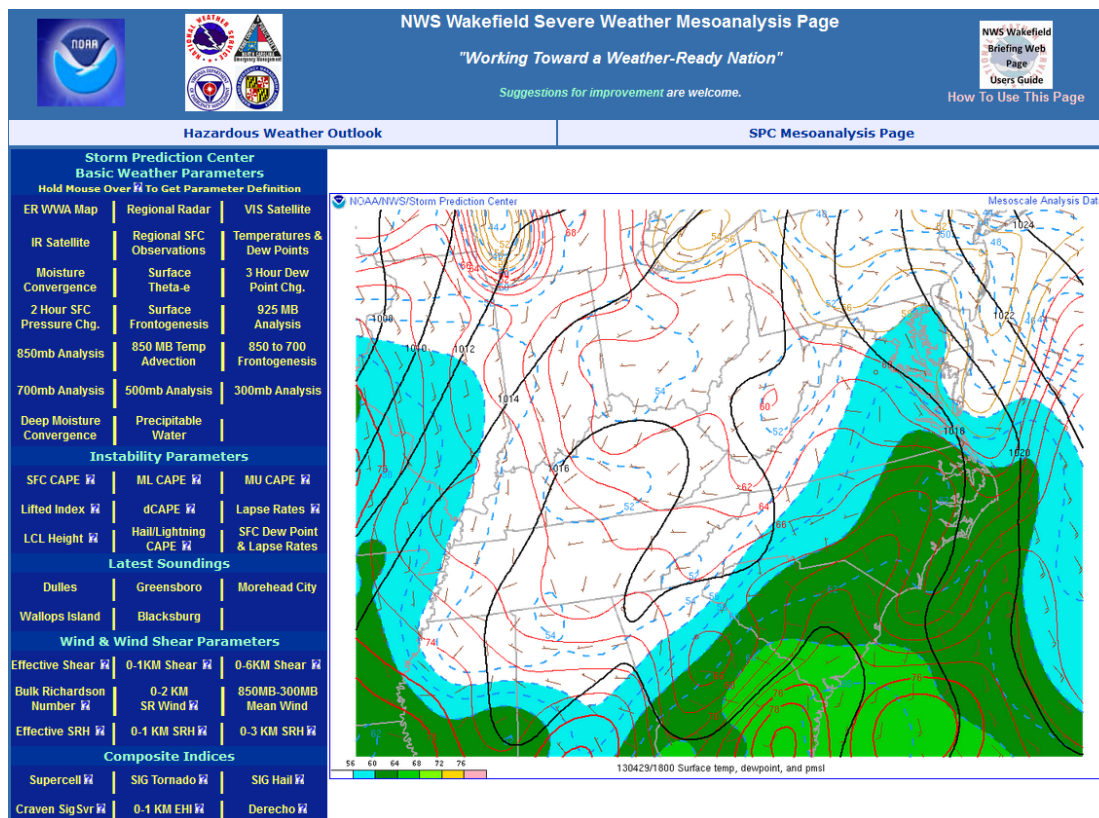


The image at left is a legend for understanding precip type nomograms.

Appendix B – The Severe Thunderstorm Mesoanalysis Page

NOTE: This page utilizes mouseover capabilities, and is compatible with smartphones and tablets.

The Severe Thunderstorm Mesoanalysis page is designed to provide a real-time picture of thunderstorm and/or severe thunderstorm potential. The graphics on this page are mostly from the SPC Mesoanalysis Page (linked above the graphics), utilizing the Mid Atlantic sector. Although many of the parameters are well known to meteorologists, others require some explanation. For those viewing this page from a PC/laptop, hold your mouse over the  symbol for an explanation of that parameter. These explanations are also provided below.



Frontogenesis - the generation or intensification of a front. It occurs when warm air converges onto colder air, and the horizontal temperature gradient amplifies by at least an order of magnitude.

Theta-e – Equivalent Potential

Temperature - The temperature a parcel of air would have if a) it was lifted until it

became saturated, b) all water vapor was condensed out, and c) it was returned adiabatically (i.e., without transfer of heat or mass) to a pressure of 1000 millibars. Theta-e, which typically is expressed in degrees Kelvin, is directly related to the amount of heat present in an air parcel. Thus, it is useful in diagnosing atmospheric instability.

Precipitable Water – Measure of the depth of liquid water at the surface that would result after precipitating all of the water vapor in a vertical column over a given location, usually extending from the surface to 300 mb.

SFC CAPE – Surface CAPE is the Convective Available Potential Energy based lifting a surface parcel, and the convective inhibition for the same parcel. Areas of high CAPE (1000+ j/kg) and minimal convective inhibition (i.e. an unstable airmass) are associated with an increased threat for surface-based thunderstorms.

ML CAPE – MLCAPE (Mixed Layer Convective Available Potential Energy) is a measure of instability in the troposphere. This value represents the mean potential energy conditions available to parcels of air located in the lowest 100mb when lifted to the level of free convection (LFC). No parcel entrainment is considered. The CAPE and CIN calculations use the virtual temperature correction.

MU CAPE – MUCAPE (Most Unstable Convective Available Potential Energy) is a measure of instability in the troposphere. This value represents the total amount of potential energy available to the most unstable parcel of air found within the lowest 300mb of the atmosphere while being lifted to its level of free convection (LFC). No parcel entrainment is considered. The CAPE and CIN calculations use the virtual temperature correction.

Lifted Index – SBLI (Surface Based Lifted Index) is a comparison between the temperature of a surface based parcel lifted to 500mb (approx. 20,000 ft) and the environmental temperature at 500MB. Negative values of SBLI denote an unstable atmosphere; the more negative, the more unstable. These fields are meant to identify areas of surface-based CAPE and minimal convective inhibition, which suggests some threat for surface-based thunderstorms.

dCAPE – The DCAPE (Downdraft CAPE) can be used to estimate the potential strength of rain-cooled downdrafts within thunderstorm convection, and is similar to CAPE. Larger DCAPE values are associated with potentially stronger downdrafts.

Lapse Rates – Lapse rates are shown in terms of temperature change (in degrees Celsius) per kilometer in height. Values less than 5.5-6.0 degrees C/km (moist adiabatic) represent stable conditions, while values near 9.5 degrees C/km (dry adiabatic) are considered absolutely unstable. In between these two values, lapse rates are considered conditionally unstable. Conditional instability means that if enough moisture is present, lifted air parcels could have a negative LI (lifted index) and/or positive CAPE.

LCL Height – The LCL (Lifting Condensation Level) is the level at which a parcel becomes saturated. It is a reasonable estimate of cloud base height when parcels experience forced ascent. The height difference between this parameter and the LFC is important when determining convective initiation. The smaller the difference between the LCL and the LFC, the more likely thunderstorms develop. The LFC-LCL difference is similar to CIN (convective inhibition).

Lightning/Hail CAPE – This image depicts CAPE in the layer from -10 C to -30 C, and the freezing level height (in meters). Large CAPE (values greater than 400-500) in the layer from -10 C to -30 C favors rapid hail growth and significant lightning activity. Freezing level heights less than 3500 meters suggest a greater probability of hail reaching the surface prior to melting.

Effective Shear – The bulk vector difference from the effective inflow base upward to 50% of the equilibrium level height for the most unstable parcel in the lowest 300 mb. This parameter is similar to the 0-6 km bulk shear, though it accounts for storm depth (effective inflow base to EL) and is designed to identify both surface-based and elevated supercell environments. Supercells become more probable as the effective bulk shear vector increases in magnitude from 25-40 kt and greater.

0-1KM Shear – Surface-1-km Vertical Shear is the difference between the surface wind and the wind at 1km above ground level. These data are plotted as vectors with shear magnitudes contoured. 0-1km shear magnitudes greater than 15-20 knots tend to favor supercell tornadoes.

0-6KM Shear – The Boundary Layer through 6km above ground level shear vector denotes the change in wind throughout this height. Thunderstorms tend to become more organized and persistent as vertical shear increases. Supercells are commonly associated with vertical shear values of at least 35-40 knots through this depth.

Bulk Richardson Number – The BRN is meant to estimate the balance between vertical shear and buoyancy, with low BRN values suggestive of vertical shear that is too strong relative to the buoyancy, and large BRN values are suggestive of multicell clusters. Intermediate BRN values favor sustained supercells. BRN values in the range of 10-45 (dimensionless) have been associated with supercells via numerical simulations.

0-2KM SR Wind – Low-Level SR (Storm Relative) winds (0-2km) are meant to represent low-level storm inflow. The majority of sustained supercells have 0-2km storm inflow values of 15-20 knots or greater.

Effective SRH – Effective SRH (Storm Relative Helicity) is based on threshold values of lifted parcel CAPE (100 J/kg) and CIN (-250 J/kg). These parcel constraints are meant to confine the SRH layer calculation to the part of a sounding where lifted parcels are buoyant, but not strongly capped. Effective SRH discriminates the best between significant tornadic and nontornadic supercells.

0-1 KM SRH – SRH (Storm Relative Helicity) is a measure of the potential for cyclonic updraft rotation in right-moving supercells, and is calculated for the lowest 1-km and 3-km layers above ground level. There is no clear threshold value for SRH when forecasting supercells, since the formation of supercells appears to be related more strongly to the deeper layer vertical shear. However, larger values of 0-3km SRH (greater than $250 \text{ m}^2/\text{s}^2$) and 0-1km SRH (greater than $100 \text{ m}^2/\text{s}^2$) do suggest an increased threat of tornadoes with supercells. For SRH, larger values are generally better, but there are no clear boundaries between non-tornadic and significant tornadic supercells.

0-3 KM SRH – SRH (Storm Relative Helicity) is a measure of the potential for cyclonic updraft rotation in right-moving supercells, and is calculated for the lowest 1-km and 3-km layers above ground level. There is no clear threshold value for SRH when forecasting supercells, since the formation of supercells appears to be related more strongly to the deeper layer vertical shear. However, larger values of 0-3km SRH (greater than $250 \text{ m}^2/\text{s}^2$) and 0-1km SRH (greater than $100 \text{ m}^2/\text{s}^2$) do suggest an increased threat of tornadoes with supercells. For SRH, larger values are generally better, but there are no clear boundaries between non-tornadic and significant tornadic supercells

Supercell Composite Parameter (SCP) – A multiple ingredient, composite index that includes effective storm-relative helicity (ESRH, based on Bunkers right supercell motion), most unstable parcel CAPE (muCAPE), and effective bulk wind difference (EBWD). Each ingredient is normalized to supercell threshold values, and larger values of SCP denote greater overlap in the three supercell ingredients. Only positive values of SCP are displayed, which correspond to environments favoring right-moving (cyclonic) supercells.

SIG Tornado Composite Parameter (STP) – A multiple ingredient, composite index that includes 0-6 km bulk wind difference (6BWD), 0-1 km storm-relative helicity (SRH1), surface parcel CAPE (sbCAPE), surface parcel CIN (sbCIN), and surface parcel LCL height (sbLCL). This version of STP uses fixed layer calculations of vertical shear, and the surface lifted parcels, as an alternative to the effective layer version of STP. A majority of significant tornadoes (F2 or greater damage) have been associated with STP values greater than 1, while most non-tornadic supercells have been associated with values less than 1.

SIG Hail Composite Parameter – The Significant Hail Parameter (SHIP) was developed using a large database of surface-modified, observed severe hail proximity soundings. It is based on 5 parameters, and is meant to delineate between SIG (2 in. diameter or greater) and NON-SIG (<2in. diameter) hail environments. Developed in the same vein as the STP and SCP parameters, values of SHIP greater than 1.00 indicate a favorable environment for SIG hail. Values greater than 4 are considered very high. In practice, maximum contour values of 1.5-2.0 or higher will typically be present when SIG hail is going to be reported.

Craven SIG Svr Composite Parameter – The simple product of 100mb MLCAPE and 0-6km magnitude of the vector difference accounts for the compensation between instability and shear magnitude. Using a database of about 60,000 soundings, the majority of significant severe events (2+ inch hail, 65+ knot winds, F2+ tornadoes) occur when the product exceeds 20,000 m3/s3. Units are scaled to the nearest 1000 on the web plot.

0-1KM EHI – The basic premise behind the EHI (Energy-Helicity Index) is that storm rotation should be maximized when CAPE is large and SRH is large. 0-1km EHI values greater than 1-2 have been associated with significant tornadoes in supercells.

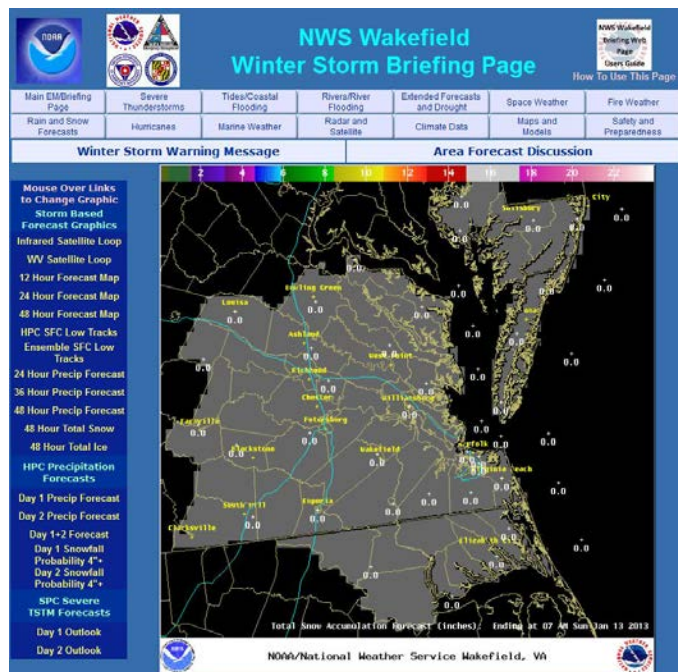
Derecho Composite – The DCP was developed to identify environments considered favorable for cold pool driven wind events through 4 mechanisms: 1) Cold pool production [DCAPE], 2) Ability to sustain strong storms along the leading edge of a gust front [MUCAPE], 3) Organization potential for any ensuing convection [0-6 km shear], and 4) 0-6 km mean wind. This index is formulated as follows:

$$DCP = (DCAPE/980) * (MUCAPE/2000) * (0-6 \text{ km shear}/20 \text{ kt}) * (0-6 \text{ km mean wind}/16 \text{ kt}).$$

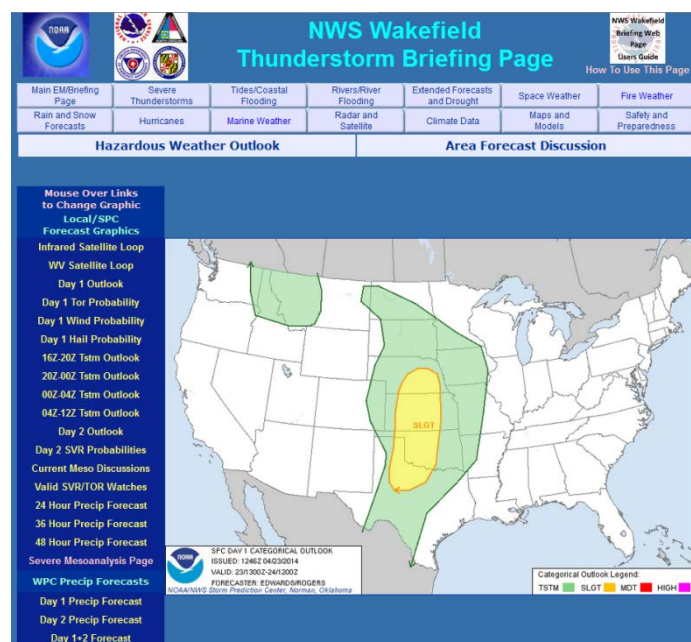
Appendix C – Comprehensive Airport Observation List

Airport Locations in and around WFO Wakefield			
Location	Site ID	Location	Site ID
DOVER DE	KDOV	SOUTH HILL	KAVC
GEORGETOWN DE	KGED	LUNENBURG	KW31
EASTON MD	KESN	FORT PICKETT	KBKT
OCEAN CITY MD	KOXB	CREWE	KW81
SALISBURY MD	KSBY	LAWRENCEVILLE	KLVL
PATUXENT RIVER NAS MD	KNHK	NEW KENT/QUINTON	KW96
ACCOMACK	KMFV	WILLIAMSBURG	KJGG
WALLOPS ISLAND	KWAL	HAMPTON (LANGLEY AFB)	KLFI
STAFFORD	KRMN	NEWPORT NEWS	KPHF
FREDERICKSBURG	KEZF	WAKEFIELD	KAKQ
GORDONSVILLE	KGVE	FRANKLIN	KFKN
CHARLOTTESVILLE	KCHO	SUFFOLK	KSFQ
LOUISA	KLKU	HAMPTON ROADS AIRPORT	KPVG
LAKE ANNA	K7W4	NAS NORFOLK	KNGU
HANOVER	KOFP	NORFOLK	KORF
TAPPAHANNOCK	KXSA	CHESAPEAKE	KCPK
SALUDA	KW75	CHESAPEAKE (Fentress Field)	KNFE
RICHMOND	KRIC	VIRGINIA BEACH (NAS OCEANA)	KNTU
WEST POINT	KFYJ	ELIZABETH CITY	KECG
CHESTERFIELD	KFCI	CURRITUCK	KONX
PETERSBURG	KPTB	MANTEO	KEDE
FARMVILLE	KFVX	AHOSKIE	KASJ
LYNCHBURG	KLYH	EDENTON	KEDE
DANVILLE	KDAN	ROANOKE RAPIDS	KIXA
SOUTH BOSTON	KW78		
CHASE CITY	KCXE		
CLARKSVILLE	KW63		

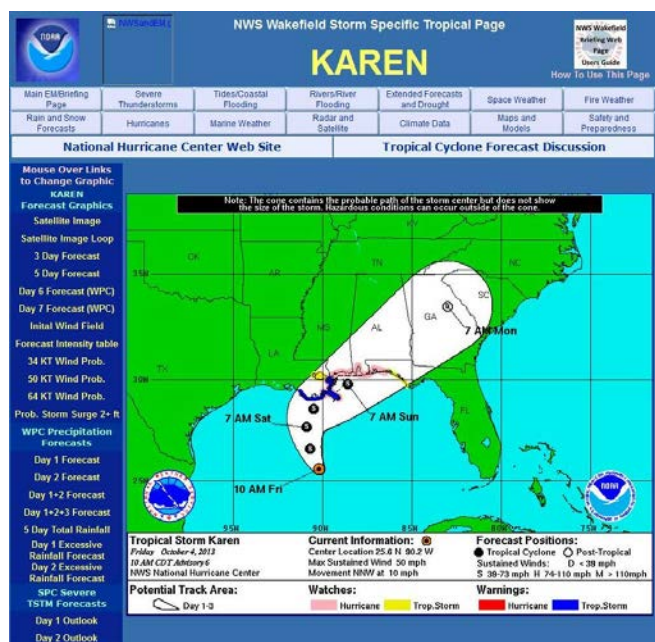
Appendix D – Winter Storm, Thunderstorm and Tropical Storm/Hurricane Situational Awareness (SA) Pages



Obtaining overall (or big picture) situational awareness (SA) about an impending hurricane/tropical storm, severe thunderstorm, or winter weather event can be a difficult task, even using the [Briefing Web Page](#). To simplify the process of obtaining that big picture situational awareness, storm specific (for tropical events), [thunderstorm](#), and [winter weather](#) situational awareness web pages were developed.



The [winter weather](#) and [thunderstorm](#) pages are static pages meant to compliment the more comprehensive and detailed information available on the [Briefing Web Page](#). The data shown on this page come from the [Rain and Snow Forecasts](#) page, the [Severe Thunderstorms](#) page, the [Satellite and Radar](#) page, and the [Maps and Models](#) page.



The storm specific hurricane/tropical storm pages are available only for those storms potentially making landfall on the U.S. East/Gulf coasts, or those getting widespread news coverage. Much of the information under "...Forecast Graphics" is obtained from the [National Hurricane Center](#). The precipitation and severe thunderstorm graphics come from the [Weather Prediction Center \(WPC\)](#), and the [Storm Prediction Center \(SPC\)](#).

The URL for these pages is:
<http://www.erh.noaa.gov/er/akq/brief/Stormname.php> (first letter of storm name is capitalized. E.G., the URL for Andrea (2013) would end with **Andrea.php**).

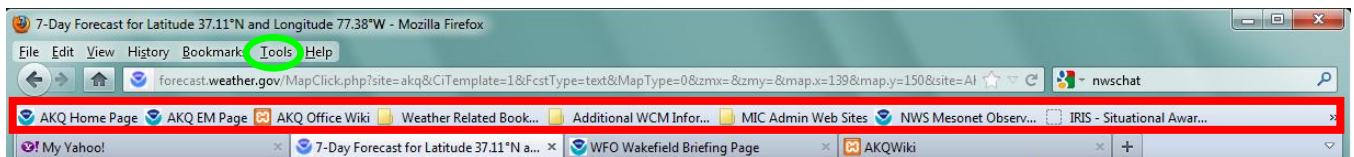
Appendix E – A Daily Briefing to Enhance Situational Awareness

Trying to decide what is or is not important weather-wise on a given day may seem difficult. However, NWS Wakefield's Briefing Page is designed to simplify the task, and allow you the flexibility to create your personal daily briefing. Creating your own daily briefing will enhance situational awareness in benign and hazardous weather situations. **And, it generally takes less than 5 minutes.** Below are a couple of ways to use our Briefing Page to generate your daily briefing.

Tabbed Browsing

Web browsers, including those on most tablet PCs, have the ability to open multiple web pages as “home pages” whenever the browser starts. I call this tabbed browsing. You can easily leverage this capability to create an overall informational briefing, part of which includes weather. Below are examples of a browser with multiple tabs (pages) open in both Firefox and Internet Explorer.

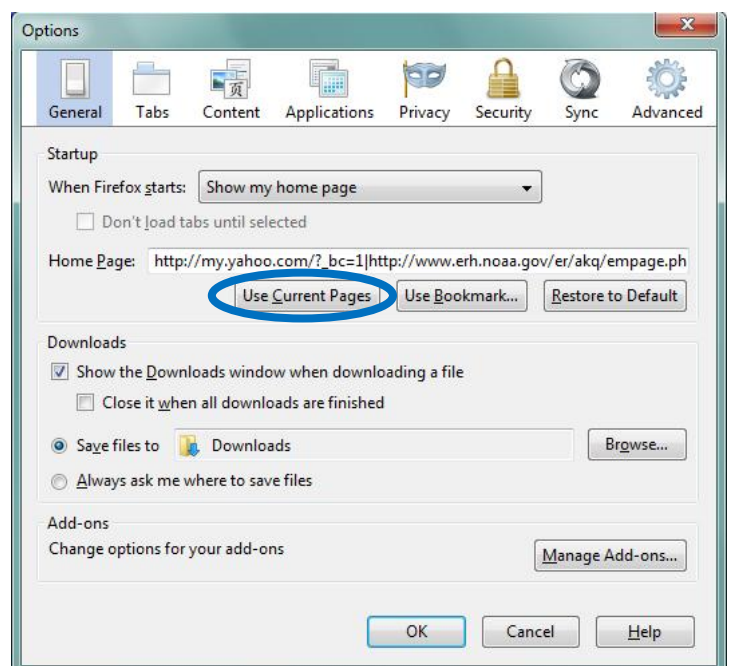
Firefox



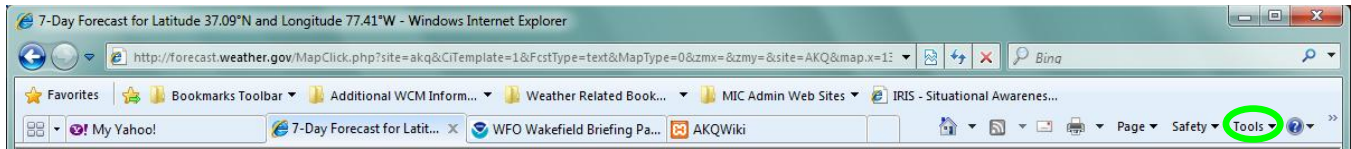
Simply click on the + to add a tab to this suite of pages. Note that I also like to have the bookmarks toolbar displayed (**highlighted in red**), which makes it easy to bring up web sites I most frequently visit. To make these pages your “homes pages”, click Tools (**circled in green**), then select Options. The following window appears:

Click Use Current Pages (**circled in blue**), then click OK.

The same process for Internet Explorer will be described on the next page.

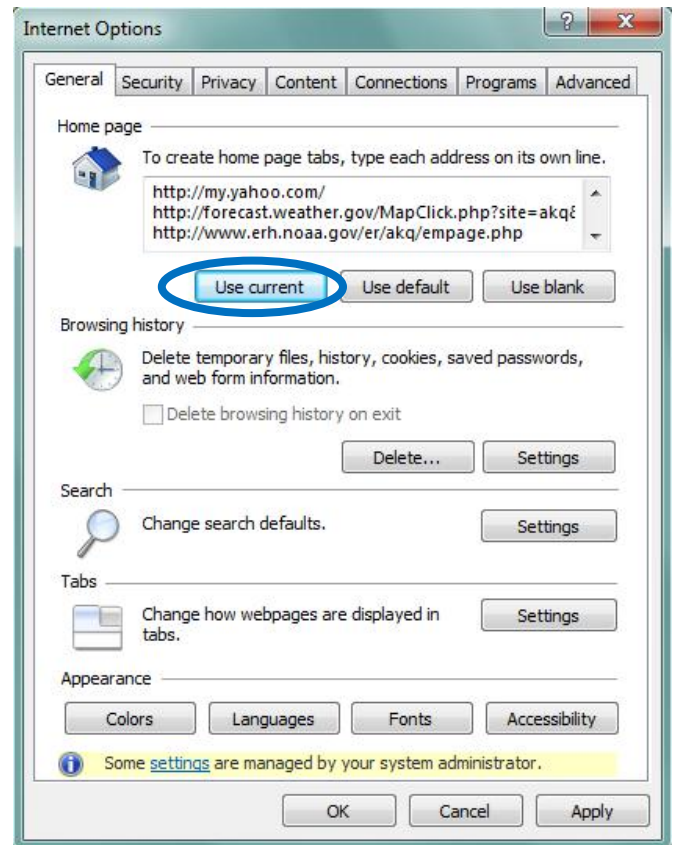


Internet Explorer



Simply click on the blank tab to the right of the “populated” ones to add a tab to this suite of pages. To make these pages your “homes pages”, click Tools (**circled in green**), then select Internet Options. The following window appears:

Click Use Current (**circled in blue**), then click Apply, then OK.

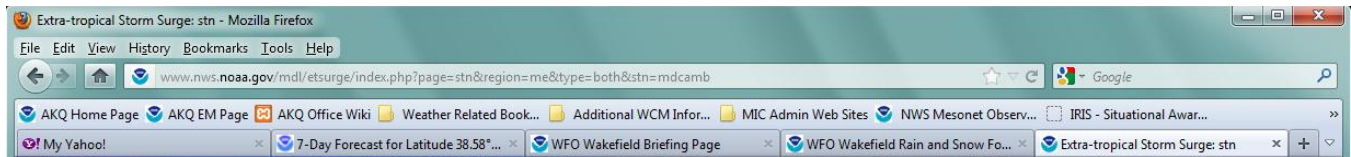


So What Pages Should I Use as Home Pages?

The answer to that question is personal preference. However, if we concentrate on weather, the simplest briefing would be having one tab be the 7 Day point forecast for a location near you, then have the main Briefing Web Page in another tab. Thus, if necessary, you get additional information on forecast rain or snow amounts, coastal flooding (if applicable), severe thunderstorms, etc. This is how I have the example tabs set up.

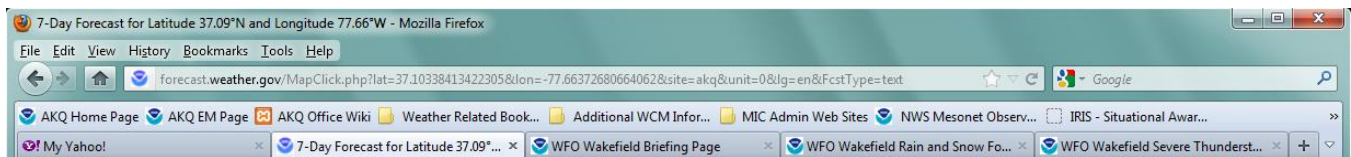
On the next page are a few options for a more robust, but efficient, weather briefing.

Coastal Location with Precipitation and/or Tidal Flooding Concerns



In this example, the Rain and Snow Forecasts page has been added, with the last tab being the Extratropical storm surge display for the location closest to the used (in this case Cambridge MD).

Inland Location with Precipitation and/or Severe Weather Concerns



In this example, the Severe Thunderstorms page has replaced the Extratropical storm surge display. Now the user can quickly determine precipitation amounts, as well as the severe weather potential over the next 2 days (if thunderstorms are anticipated in the 7 day point forecast).

Inland Location with Precipitation, Severe Weather, and/or River Flooding Concerns



In this example, a 5th tab (the Rivers/River Flooding tab) has been added. In addition to precipitation and severe weather, the user can now quickly assess any river flooding potential for the gauging point(s) closest to their location, or in their area of concern.

One Final Request

Please take time to become familiar with NWS Wakefield's Briefing Page. There is a lot of information on this page, both local and national, current and past. Much time has been spent to create a resource that can make any NWS customer a smarter, more informed user of weather information, without having to be a meteorologist.